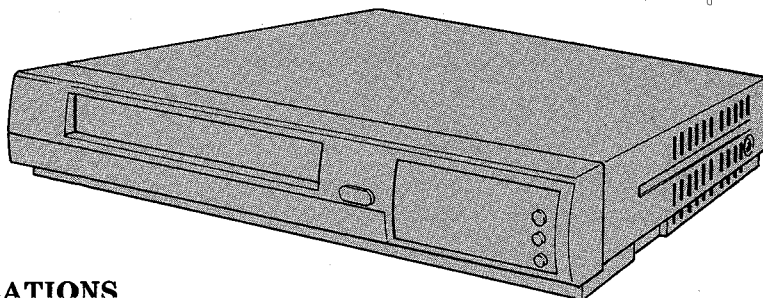


Service Manual

General Description
Adjustment Procedures
Block / Schematic Diagrams
Exploded Views / Parts List

Video Cassette Recorder

Panasonic **VHS** **HQ**
PAL
NV-L20 EO
EV
EE
VW-VPS5


SPECIFICATIONS

ITEM	SPECIFICATION		ITEM	SPECIFICATION
POWER	SOURCE: 220 V 50/60 Hz		VIDEO	OUTPUT: VIDEO OUT Connector (PHONO type) 1.0 Vp-p, 75Ω terminated (NV-L20EE) EURO AV Connector (21 pin) 1.0 Vp-p, 75Ω terminated (NV-L20EO/EV)
	CONSUMPTION: 22 W			
RECORDING SYSTEM	2 rotary heads, helical scanning system		AUDIO	HEAD: 1 Stationary head (Normal Audio)
	PAL			INPUT: AUDIO IN Connector (Phono type) More than -10 dBV (316 mV), more than 50 kΩ (NV-L20EE) EURO AV Connector (21 pin) More than -10 dBV (316 mV), more than 10 kΩ (NV-L20EO/EV)
TV TUNER SYSTEM	NV-L20EO/EV	VHF I : CHE2~CHE4 VHF III: CHS4~CHE12 VHF H: CHS11~CHS41 (PAL B) 75Ω unbalanced UHF: CH21~CH69 (PAL G) 75Ω unbalanced		OUTPUT: AUDIO OUT Connector (Phono type) -6 dBV (500 mV), Less than 1 kΩ (NV-L20EE) EURO AV Connector (21 pin) -6 dBV (500 mV), Less than 1 kΩ (NV-L20EO/EV)
	NV-L20EE	VHFI: PAL/SECAM B. G; CHE2~CHS3 SECAM OIRT; CH1~CH5 VHFIII: PAL/SECAM B. G; CHM1~CHU10 SECAM OIRT; CH6~CH12 75Ω unbalanced UHF: PAL/SECAM B. G, SECAM OIRT; CH21~CH69 75Ω unbalanced	TAPE FORMAT	VHS Cassette tape (Tape width 12.7 mm)
		TAPE SPEED	23.39 mm/s Record/Playback Time: 4 hours with 240 min. type tape FF/REW Time 5.5 min. with 180 min. type tape	
			DIMENSIONS	380(W) × 82(H) × 343.5(D) mm
RF OUT SYSTEM	UHF: CH36 ± 4 (PAL G) 70 ± 3 dBμ, 75Ω terminated (NV-L20EO/EV) UHF: CH36 ± 4 (PAL/SECAM B. G, SECAM OIRT) 73 ± 3 dBμ, 75Ω terminated (NV-L20EE)		WEIGHT	5.0 kg
			STANDARD ACCESSORIES	1 pc. DIN-RF Cable 1 pc. Infra-red remote controller (Build in Digital Scanner type) 1 pc. Programme sheet 1 pc. AC Cord
VIDEO	HEADS: 3 rotary heads 1 pair for recording, playback (L-R heads) 1 pc. for trick play (L' heads)		OPTIONAL ACCESSORIES	VW-VPS5 (NV-L20EO ONLY)
	INPUT: VIDEO IN Connector (PHONO type) 1.0 Vp-p, 75Ω terminated (NV-L20EE) EURO AV Connector (21 pin) 1.0 Vp-p, 75Ω terminated (NV-L20EO/EV)			

Weight and dimensions shown are approximate.
 Specifications are subject to change without notice.

Panasonic

Matsushita Electric Industrial Co., Ltd.
 Central P.O. Box 288, Osaka 530-91, Japan

INTRODUCTION

This service manual contains technical information which will allow service personnels to understand and service this model.

Section 1 presents you with some general information of features and controls, enabling you to become familiar with each function.

Section 2 contributes to your mechanical and electrical adjustment as well disassembly and replacement procedures.

In the case of very common information relating to other models like mechanical adjustments, please refer to each service manual.

Section 3 contains block diagrams which offers you information for checking and understanding each circuit. Schematic diagrams which give you detailed information such as waveforms, voltage data, function e.t.c...

Section 4 contains exploded views and parts list.

Please place orders using the parts list and not the drawing reference numbers.

If the circuit is changed or modified, this information will be followed by supplementary service manual to be filed with original service manual.

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MECHANICAL REPLACEMENT PARTS LIST

ELECTRICAL REPLACEMENT PARTS LIST

REMARKS (NV-L20EE)

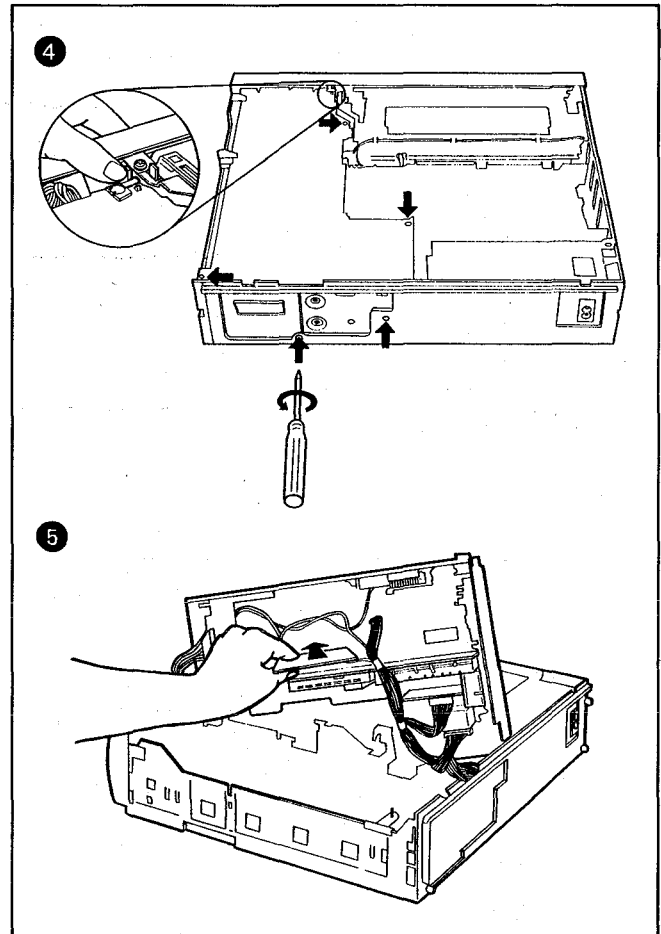
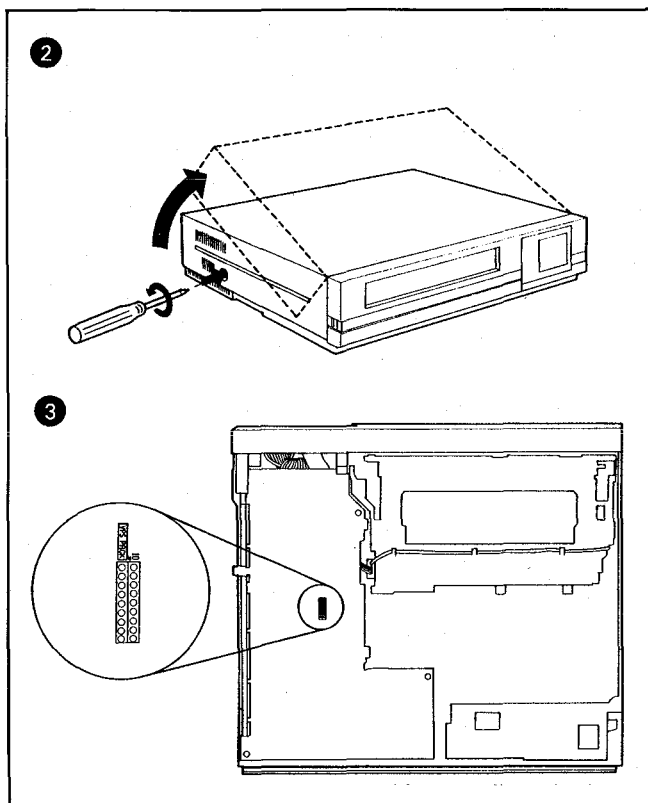
1. It is possible to receive, record and play back colour broadcasts from East Germany (DDR) on this video recorder.
2. When a video tape that was recorded with a colour TV broadcast from East Germany on this VTR is played back on a SECAM (France) or on a PAL VTR, the picture may be in black and white.
3. When a video tape recorded on a SECAM (France) VTR or a SECAM (France) pre-recorded video tape is played back on this VTR, the picture is in black and white.

Technical Information

Subject: How to install the VPS DECODER (VW-VPS5)

To install the optional VPS Decoder (VW-VPS5), consult your Panasonic dealer.

- 1 Do not connect the video recorder to the mains outlet.
- 2 Unfasten the two screws of the cabinet cover and remove the cabinet cover.
- 3 Confirm the position where the VPS Decoder is to be inserted on the main printed circuit board and melt and remove the solder in the rectangular hole.
- 4 Remove the two screws on the back of the unit and the three screws on the upper side of the main printed circuit board. Push down the clip at an angle, so that the main printed circuit board will be released.
- 5 Lift the main printed circuit board up into vertical position, insert the VPS Decoder and solder it.
- 6 Reassemble the VTR.

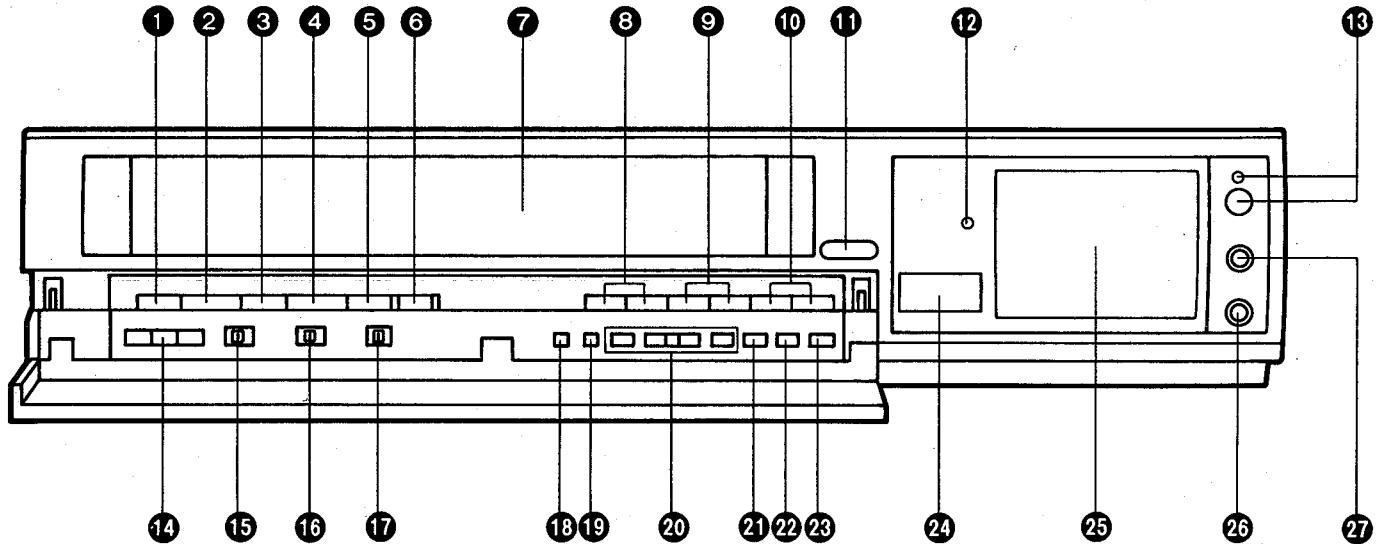


SECTION 1

GENERAL DESCRIPTIONS

1-1. CONTROLS AND COMPONENTS

FRONT



- ❶ Rewind ◀◀/Review ◀▶ Button
- ❷ Play/×2 Button (▶)
- ❸ Fast Forward ▶▶/Cue ▶▶▶▶ Button
- ❹ Stop Button (■)
- ❺ Pause/Still Button (||)
- ❻ Record Button (●)
- ❼ Cassette Compartment
- ❽ Channel Selection Up and Down Buttons
- ❾ OTR On Buttons
- ❿ OTR Off Buttons
- ⓫ Eject Button (▲)
- ⓬ Digital Tracking Indicator
- ⓭ VTR On/Off Switch with Indicator
- ⓮ Picture Sharpness Control

❶ Noise Filter/Edit Selector

EDIT ON: For editing operations such as dubbing.
OFF: For ordinary use of the VTR.

NOISE FILTER ON: For playback of tapes with inferior picture quality caused, for example, by repeated dubbing.

•When the Noise Filter/Edit Selector is set to "EDIT ON", the picture sharpness cannot be adjusted with the Picture Sharpness Control.

❶ TV System Selector (NV-L20EE)

TV System Selector

Set the TV System Selector to the TV system ("PAL/SECAM B•G" or "SECAM OIRT") which is used by the station to be tuned in, or set it to "AUTO".

"AUTO" Position:

The VTR will automatically select the correct TV system for the selected station.

"SECAM OIRT" Position:

For Poland, the USSR and other COMECON countries except the DDR and Yugoslavia.

"PAL/SECAM B•G" Position:

For the DDR, Yugoslavia and other European countries.

•If the broadcast signal reception is not good or if the sound is not satisfactory during playback when the TV System Selector is in the "AUTO" position, set the selector to "SECAM OIRT" or to "PAL/SECAM B•G".

17 Digital Tracking On/Off Switch

Digital Tracking

ON: Select this position for digital tracking.

Under the following conditions, the digital tracking function will be activated, the Digital Tracking Indicator will flash for several seconds, and the tracking will be adjusted automatically (after the adjustment, the Tracking Indicator will remain lit):

- When playback is started after inserting a cassette, and the VTR is turned on, the Digital Tracking function will be activated automatically.
- Press the Tracking (+) and (−) Buttons simultaneously to activate this function.
- During playback, the Digital Tracking function will be activated whenever the playback changes over from an unrecorded part to a recorded part, provided the recorded part is longer than 4 seconds.

• If the Tracking (+) or (−) Button is pressed during digital tracking, the VTR changes over to manual tracking, and the Digital Tracking Indicator will go out.

Manual Tracking

OFF: Select this position for manual tracking.

- When the playback picture is distorted by noise bars, adjust by pressing the Tracking (+) or (−) Button.
- To return the tracking control to the former setting, press the Tracking (+) and (−) Button simultaneously.

18 Clock Button

19 Preset/Fine/Normal Button

20 Timer Controls

21 Band/AFC Button (NV-L20EE)
AFC/VPS Button (NV-L20EO/EV)

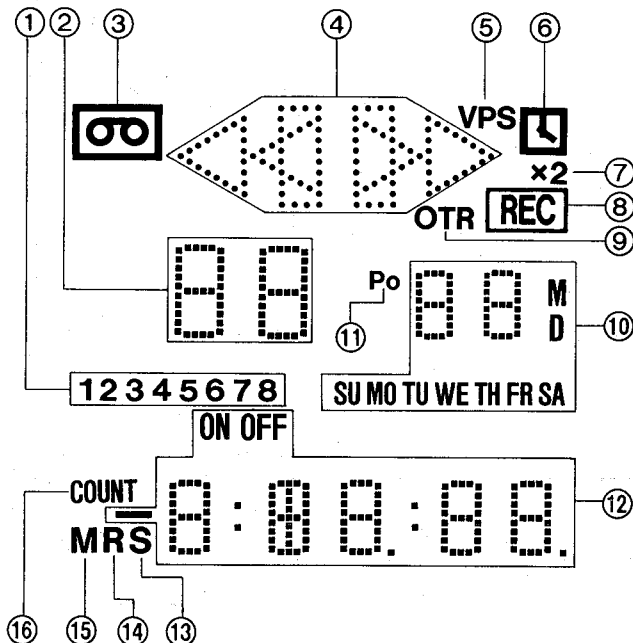
22 Clear Button

23 Timer Record Button

24 Infra-red Remote Control Receiver

25 Multi-Function Display

Multi-Function Display



1 Timer Programme Number

2 Channel Display

3 Cassette-in Indicator

4 Tape Running Display

5 VPS Indicator (NV-L20EO/EV)

6 Timer Recording Indicator

7 Double Speed Indicator

8 Recording Indicator

9 OTR Indicator

10 Date Display

11 Position Indicator

12 Tape Counter Indicator

13 Search Indicator

14 Repeat Indicator

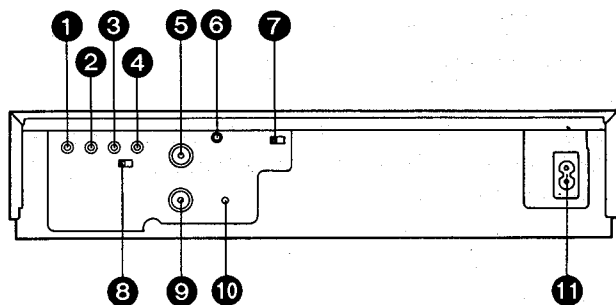
15 Memory Indicator

16 Counter Mode Indicator

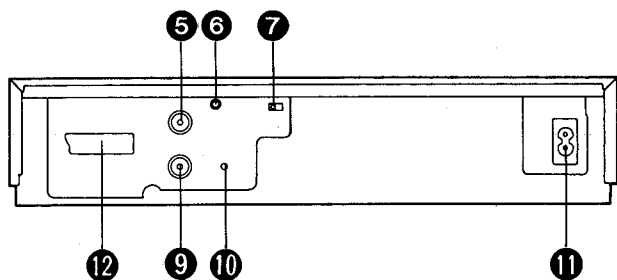
26 Reset Button

27 Clock/Counter Selector

REAR



(NV-L20EE)



(NV-L20EO/EV)

① Audio Input Socket (NV-L20EE)

② Video Input Socket (NV-L20EE)

③ Audio Output Socket (NV-L20EE)

④ Video Output Socket (NV-L20EE)

⑤ RF Output Socket

⑥ Vertical Lock Controls

If vertical jitter occurs during Still playback, adjust the V-Lock Control (on the rear of the VTR) with a screw driver. A one-time adjustment should be all that is necessary.

⑦ Test Signal Switch

⑧ RF Selector Switch (NV-L20EE)

Use the RF Selector to select the colour TV system used by the TV set to be connected.

Select the switch PAL/SECAM B•G or SECAM OIRT.

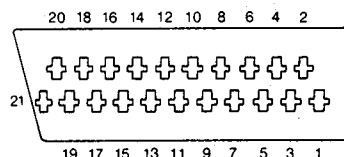
⑨ RF Input Socket

⑩ Video Playback Channel Selector

- If UHF channel 36 is already occupied by a TV station in your area, the video playback channel can be changed from channel 32 to 40 on the back of the VTR by using a small screwdriver.

⑪ AC Mains Lead Socket

⑫ Connections of the Euro AV Socket

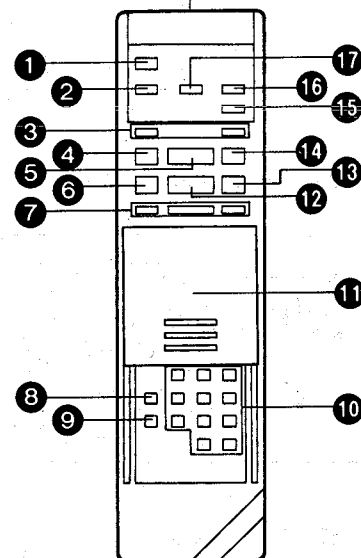
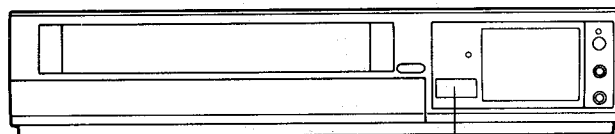


- | | |
|------------------------|------------------|
| 1 AUDIO OUTPUT CH2 (R) | 11 No connection |
| 2 AUDIO INPUT CH2 (R) | 12 No connection |
| 3 AUDIO OUTPUT CH1 (L) | 13 No connection |
| 4 AUDIO GND | 14 No connection |
| 5 No connection | 15 No connection |
| 6 AUDIO INPUT CH1 (L) | 16 No connection |
| 7 No connection | 17 VIDEO GND |
| 8 SWITCHING VOLTAGE | 18 No connection |
| 9 No connection | 19 VIDEO OUTPUT |
| 10 No connection | 20 VIDEO INPUT |
| | 21 GND |

1-2. INFRA-RED REMOTE CONTROLLER

Part Number: VEQ0930 (NV-L20EO/EV)

VEQ0932 (NV-L20EE)



① VTR On/Off Button

② Clock Counter Selector

③ Record Buttons (●)

- ④ Pause/Still Button (II)
- ⑤ Stop Button (■)
- ⑥ Rewind ◀◀/Review ◀ Button
- ⑦ Slow Buttons
- ⑧ Time Search Button
- ⑨ Monitor Button
- ⑩ Programme Position (Channel) Selector Buttons
- ⑪ Mode Selector Cover
- ⑫ Play/x2 Button (▶)
- ⑬ Fast Forward ▶▶/Cue ▶▶ Button
- ⑭ Still Advance Button (III▶)
- ⑮ Reverse Play Button
- ⑯ Memory/Repeat/Search Button
- ⑰ Reset Button

② Digital Scanner On/Off Button

③ Bar Code Reading Section

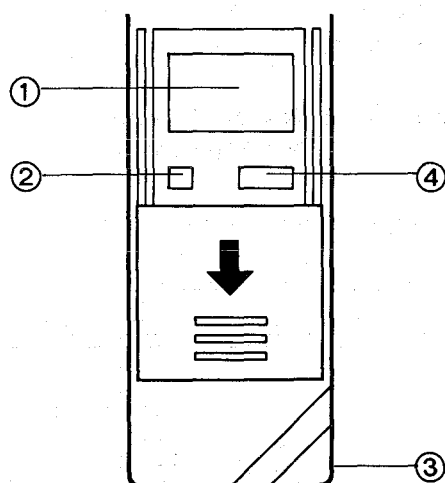
④ Transmit Button

Note:

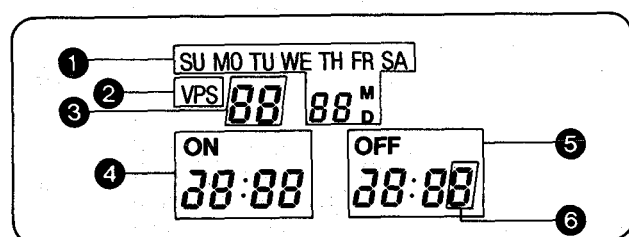
To be able to use the unit as Remote Controller, press the Digital Scanner On/Off Button (the indications in the LCD Display will disappear).

Use as Digital Scanner

Slide the Mode Selector Cover downward.



① Bar Code Reader Display



- ① Date Display
- ② VPS Indicator (NV-L20EO/EV)
- ③ Channel Display
- ④ Start Time Display
- ⑤ End Time Display
- ⑥ Check Indicator

SECTION 2

ADJUSTMENT PROCEDURES

2-1. DISASSEMBLY METHOD

2-1-1.DISASSEMBLY FLOW CHART

This flowchart indicates disassembly steps of the cabinet parts and circuit boards in order to find the necessary items for servicing.
When reassembling, perform the steps in the reverse order.

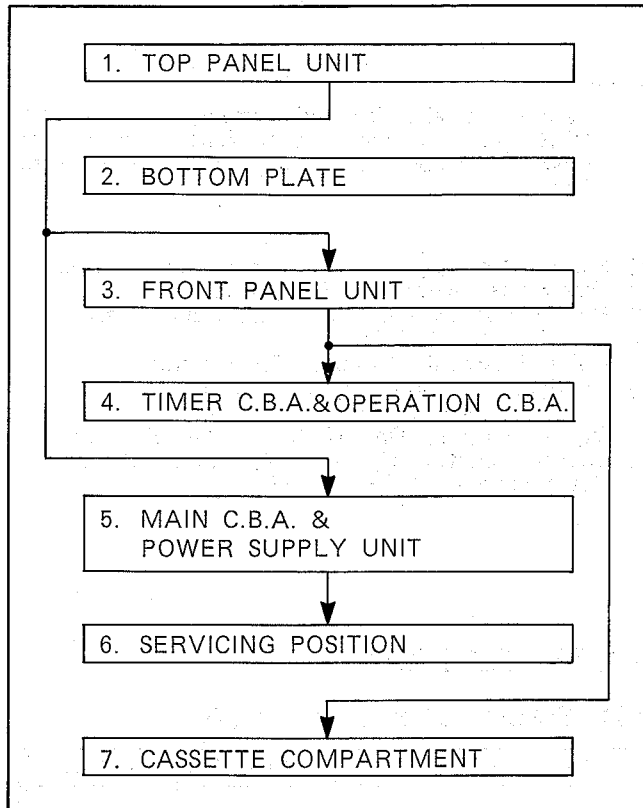


Fig.D1

2-1-2.DETAIL OF DISASSEMBLE METHOD

1. REMOVAL OF THE TOP PANEL UNIT

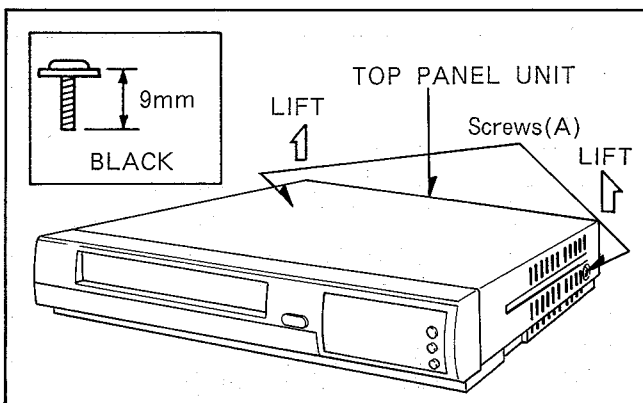


Fig.D2

Remove.....2 Screws(A)

2.REMOVAL OF THE BOTTOM PLATE

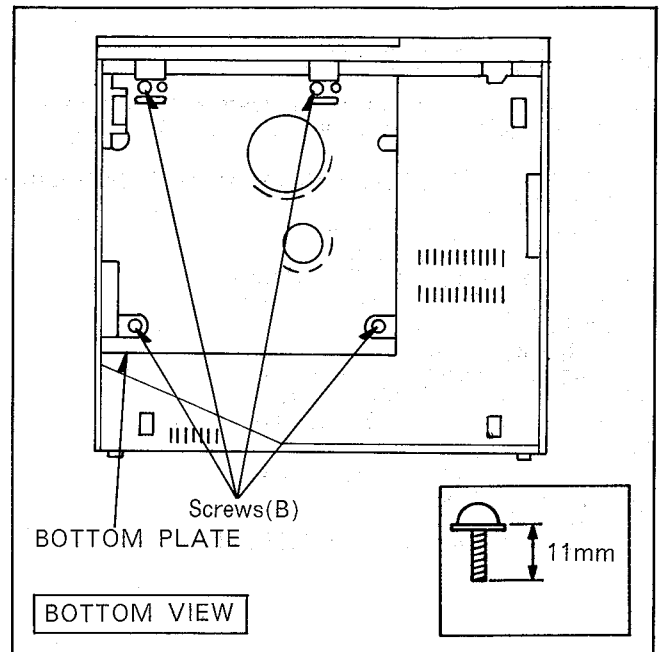


Fig.D3

Remove.....4 Screws(B)

3.REMOVAL OF THE FRONT PANEL UNIT

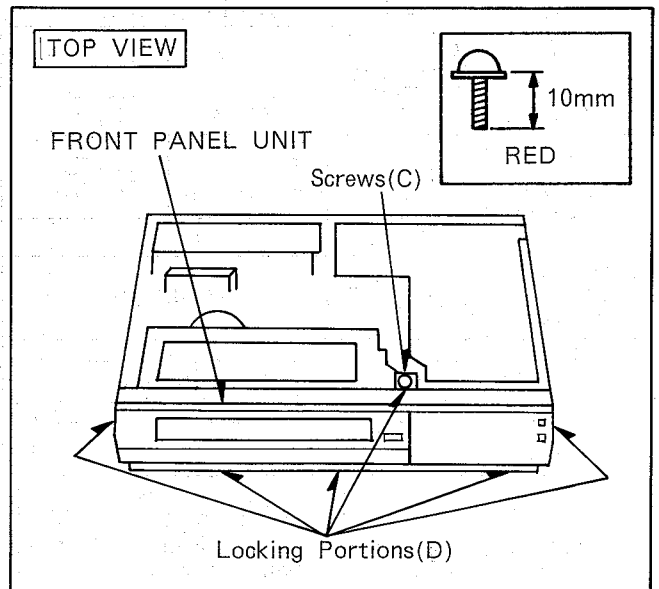


Fig.D4

Remove..... Screw(C)
Unlock..... 6 Locking Portions(D)

4. REMOVAL OF THE TIMER C.B.A. AND OPERATION C.B.A.

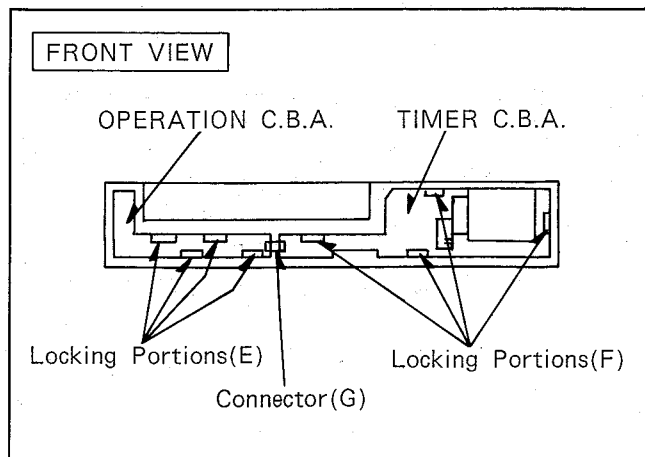


Fig.D5

REMOVAL OF THE OPERATION C.B.A.

Unlock.....4 Locking Portions(E)
Disconnect.....Connector(G)

REMOVAL OF THE TIMER C.B.A.

Unlock.....4 Locking Portions(F)

NOTE: HOW TO REMOVE THE CONNECTOR (G).

When removing the connector(G), carefully lift the top portions(H) of connector to remove.

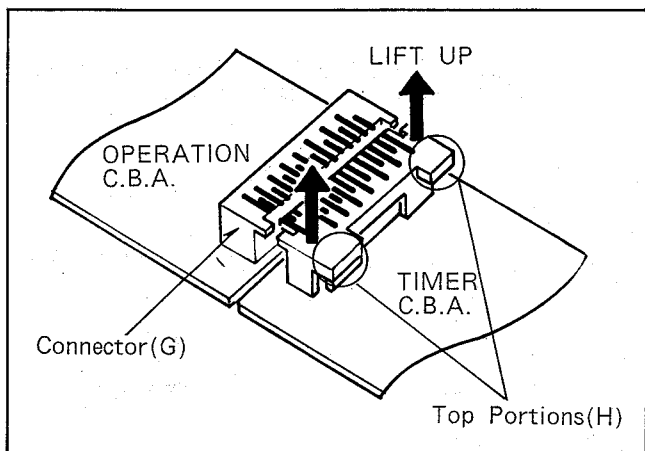


Fig.D6

NOTE:

If the connector is turned for checking the operation C.B.A. and Timer C.B.A., the short circuit could be made between reed wires. Be sure there is no short circuit between reed wires and check the both Operation & Timer C.B.As.

5. REMOVAL OF THE MAIN C.B.A. AND POWER SUPPLY UNIT

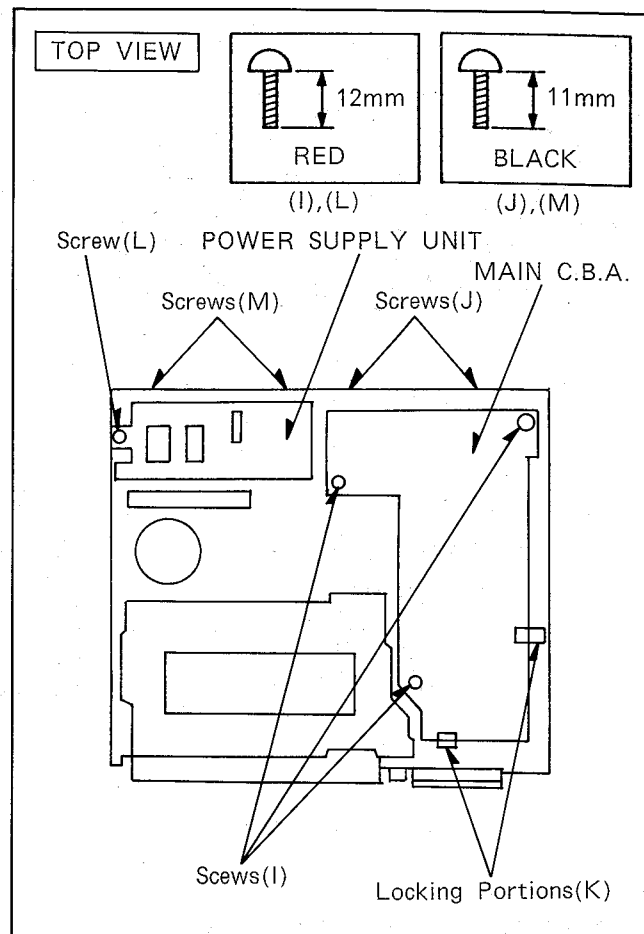


Fig.D7

REMOVAL OF THE MAIN C.B.A.

Remove..... 3 Screws(I) and 2 Screws(J)
Unlock..... 2 Locking Portions(K)

REMOVAL OF THE POWER SUPPLY UNIT

Remove.....Screw(L) and 2 Screws(M)

6.SERVICING

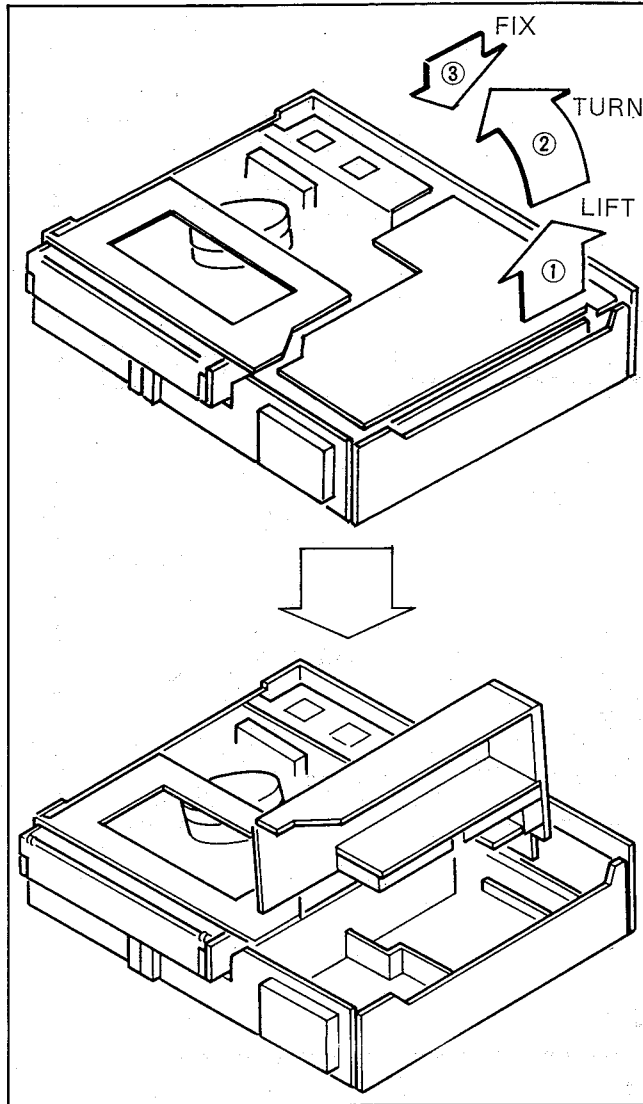


Fig.D8

7. REMOVAL OF THE CASSETTE COMPARTMENT

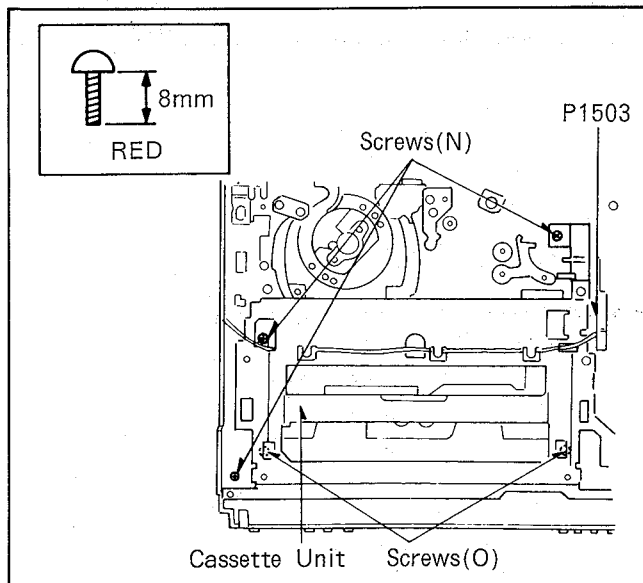


Fig.D9

Remove the 3 screws(N). Slide the cassette holder until appearing 2 screws(O) by turning (clockwise) the Capstan Rotor Unit (located in the bottom side as shown in Fig.D10) and remove the 2 screws(O). Remove the wire cable from connector P1503 mounted on Take-up Photo Tr. C.B.A. , then carefully pull out the Cassette Compartment.

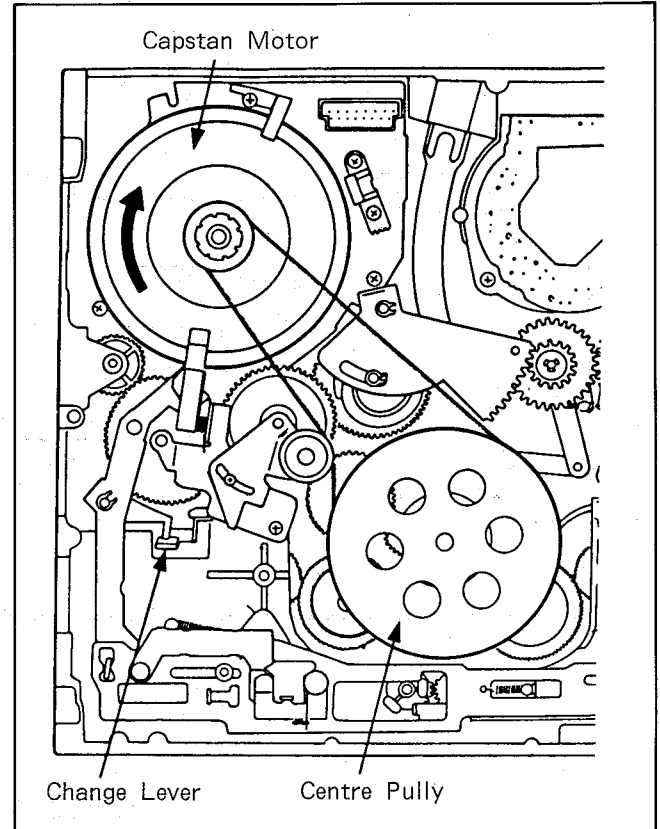


Fig.D10

NOTE:

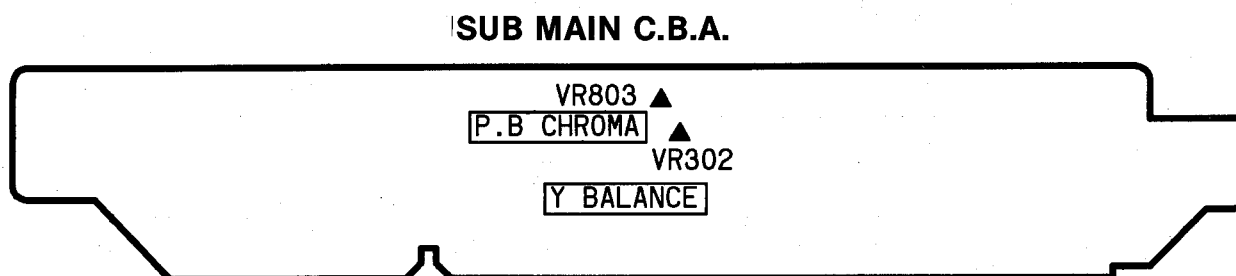
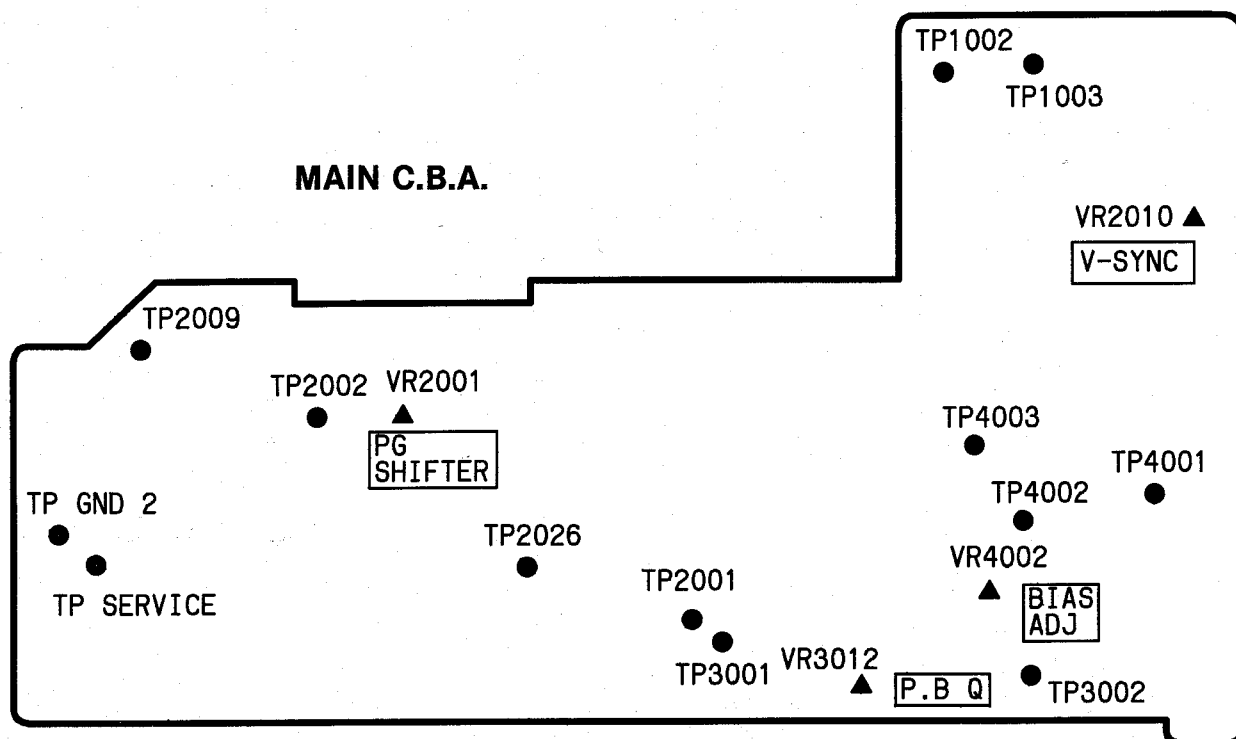
When restalling the Cassette Compartment, mechanical adjustment (alignment) must be performed for correct working refer to Service Manual (G Mechanical Chassis) (Order No.VRD8701105, item 3-10.mechanical adjustment (alignment)).

2-2. MECHANICAL ADJUSTMENT PROCEDURES

This mechanical chassis of these models NV-L20EO/EV/EE is the same as G Mechanical Chassis.

Therefore please refer to the Service Manual No. GII/G-REV. Mechanical Chassis (Order No. VRD8901M101).

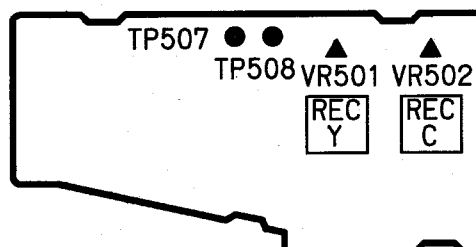
LOCATION OF TEST POINTS & CONTROLS

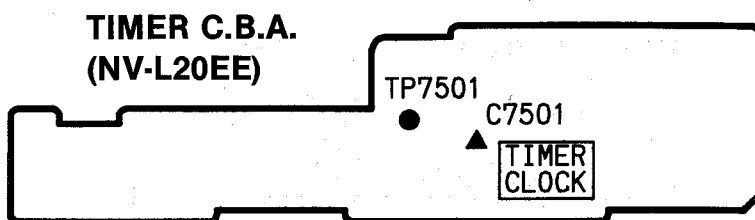
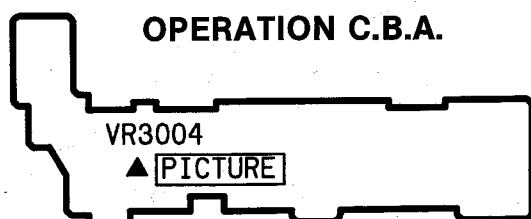


DDR SECAM PACK C.B.A. (NV-L20EE)

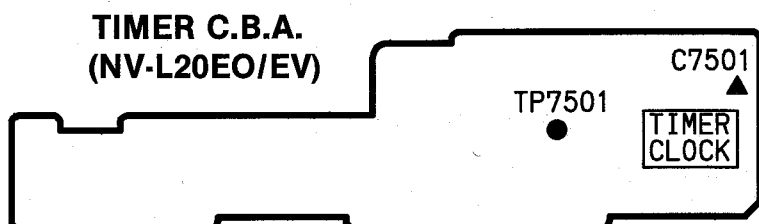
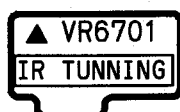


HEAD AMP C.B.A.

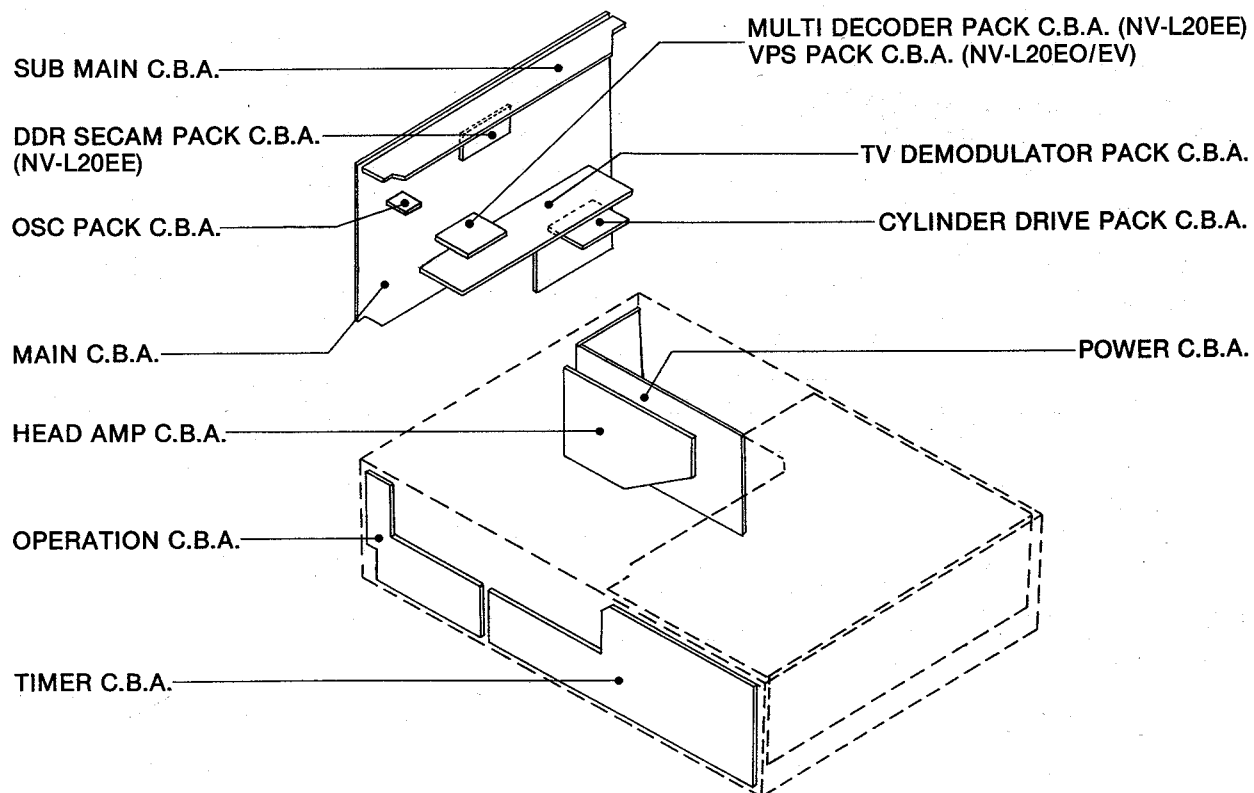




IR RECEIVER C.B.A.



CIRCUIT BOARD LAYOUT



2-3. ELECTRICAL ADJUSTMENT PROCEDURES

This section provides complete electrical adjustment procedures which may be required for electronic circuits of VHS Video Cassette Recorders NV-L20EO/EV/EE.

2-3-1. TEST EQUIPMENTS

To perform the electrical adjustments completely, following equipments are required.

1. VTVM (Vacuum Tube Volt Meter) or DVM (Digital Volt Meter)
Voltage Range: 0.001~50V
2. Dual-Trace Oscilloscope
Voltage Range: 0.005~50V/div.
Frequency Range: DC~30MHz
Probes: 10:1 or 1:1
3. Frequency Counter
Frequency Range: 0~10MHz
4. Signal Generator (Sinewave)
Frequency Range: 0~500KHz
5. Video Sweep Generator
Frequency Range: 0~10MHz
6. Colour Monitor TV
7. Plastic Tip Driver
8. VHS Alignment Tape (VFJ8125H3F)

2-3-2. HOW TO READ THE ADJUSTMENT PROCEDURES

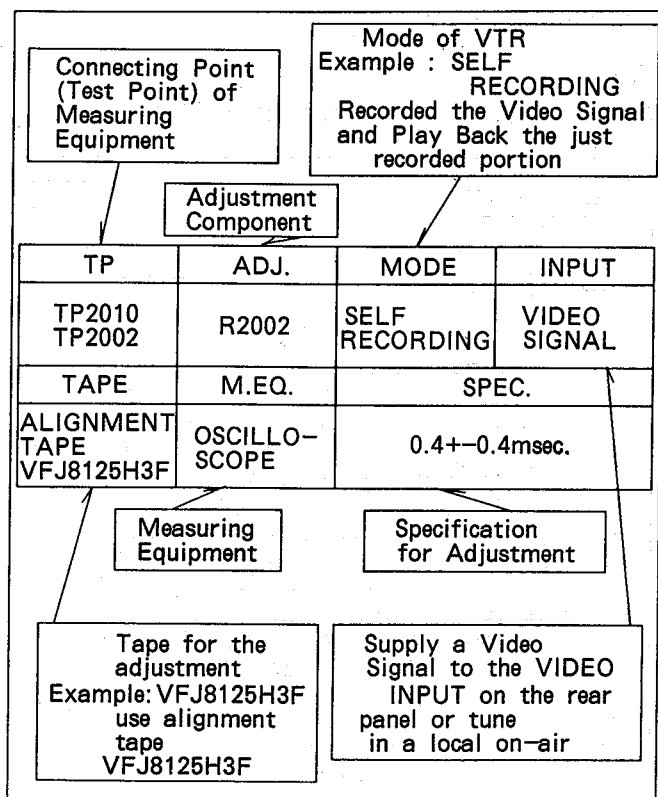


Fig.E1

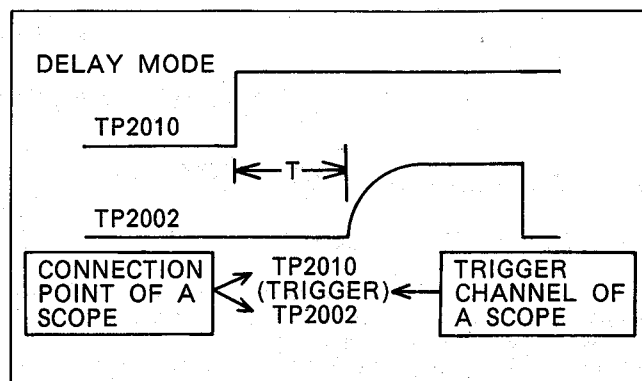


Fig.E2

NOTE:

Before the electrical adjustment, set the VHS VTR as following conditions except for especial instructions in each adjustment item.

- 1) Picture Sharpness Control...Centre Fix Position
- 2) Test Signal Switch...OFF Position
- 3) RF Selector Switch...PAL/SECAM B.G Position (NV-L20EE)
- 4) Noise Filter/Edit Switch...OFF Position
- 5) TV System Selector...AUTO Position (NV-L20EE)
- 6) Digital Tracking On/Off Switch...ON Position
- 7) Channel Selection Up and ...AV Mode (CH 0) Down Buttons (NV-L20EO/EV)

SERVO SECTION

2-3-3. PG SHIFTER ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP2001 TP3002	VR2001	PLAY	
TAPE	M.EQ.	SPEC.	
ALIGNMENT TAPE VFJ8125H3F	OSCILLO- SCOPE	6.5+~0.5H	

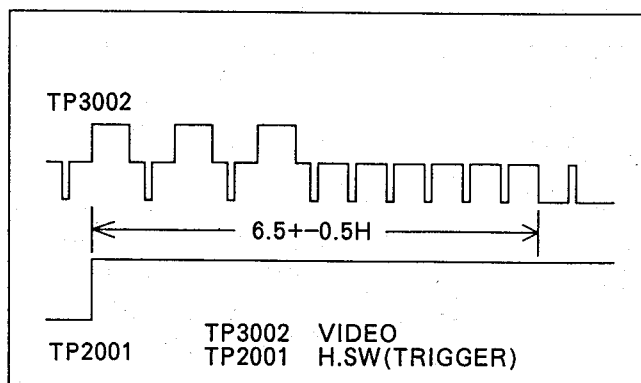


Fig.E3

2-3-4. ARTIFICIAL V-SYNC ADJUSTMENT

TP	ADJ.	MODE	INPUT
	VR2010	SELF RECORDING	VIDEO SIGNAL
TAPE	M.EQ.	SPEC.	
BLANK TAPE	TV MONITOR		

1. Playback the just recorded portion and place the deck in STILL mode.
2. Adjust the VR2010 so that the V-dancing does not appear on the TV monitor screen.

LUMINANCE, CHROMINANCE & HEAD AMP SECTION

2-3-5. CHROMINANCE RECORDING CURRENT ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP507(HOT) TP508(GND)	VR502	RECORDING	VIDEO SIGNAL
TAPE	M.EQ.	SPEC.	
BLANK TAPE	OSCILLOSCOPE	$32 \pm 2 \text{mVp-p}$	

1. Connect the oscilloscope to TP507(HOT) and TP508(GND).
2. Connect a jumper wire between P3001-1 and GND. And then place the unit to Recording mode.
3. Adjust VR502 so that chroma level becomes $32 \pm 2 \text{mVp-p}$.

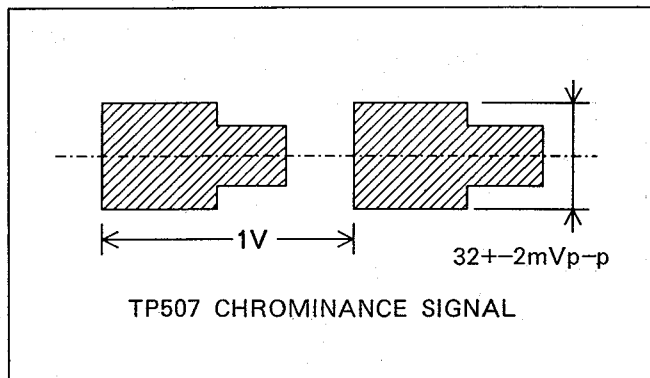


Fig.E4

2-3-6. LUMINANCE RECORDING CURRENT ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP507(HOT) TP508(GND)	VR501	RECORDING	VIDEO SIGNAL
TAPE	M.EQ.	SPEC.	
BLANK TAPE	OSCILLOSCOPE	$130 \pm 5 \text{mVp-p}$	

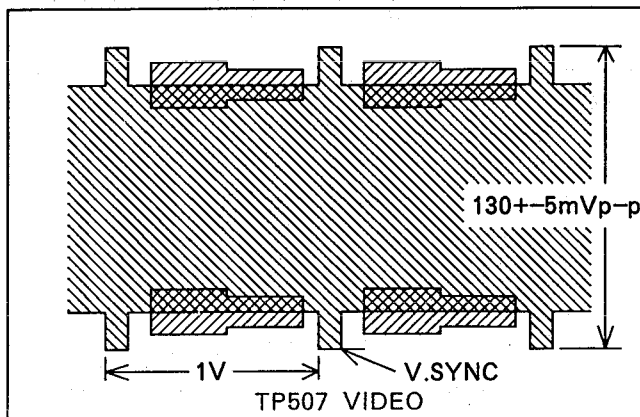


Fig.E5

2-3-7. PLAYBACK CHROMA CYAN LEVEL ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP3002 (VIDEO OUT)	VR803	SELF RECORDING	VIDEO SIGNAL
TAPE	M.EQ.	SPEC.	
BLANK TAPE	OSCILLOSCOPE	$0.55 \pm 0.05 \text{Vp-p}$	

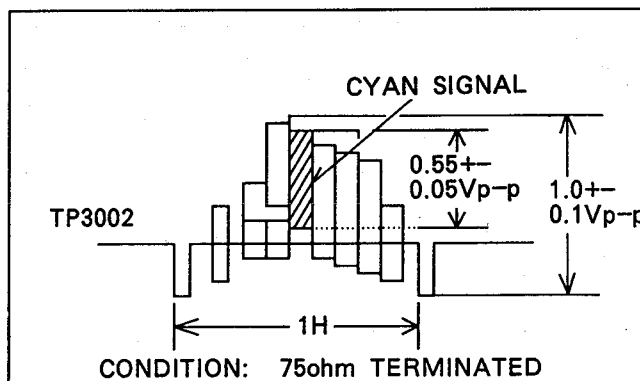


Fig.E6

2-3-8. HEAD AMP FREQUENCY RESPONSE ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP3002 (VIDEO OUT)	VR3012	SELF RECORDING	VIDEO SWEEP
TAPE	M.EQ.	SPEC.	
BLANK TAPE	VIDEO SWEEP/ OSCILLOSCOPE		

1. Set the sweep generator output as shown in below.

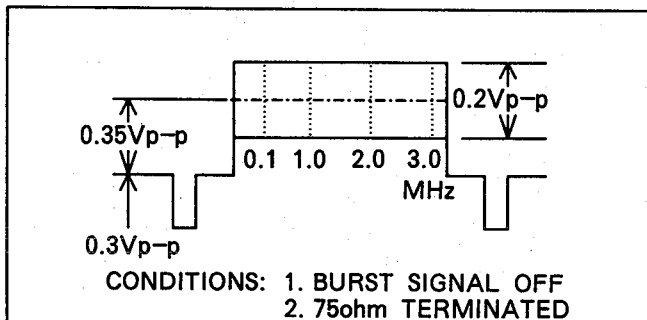


Fig.E7

2. Picture Sharpness Control is centre fix position.
3. Adjust the VR3012 so that the waveform becomes as shown in below.

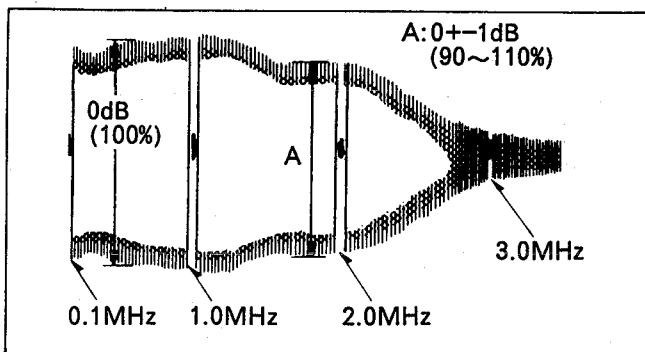


Fig.E8

2-3-9. Y-NR BALANCE ADJUSTMENT

TP	ADJ.	MODE	INPUT
C306-(+)	VR302	SELF RECORDING	VIDEO SIGNAL (COLOUR BAR)
TAPE	M.EQ.	SPEC.	
BLANK TAPE	OSCILLOSCOPE	WAVEFORM IS MINIMIZED	

1. Connect the oscilloscope to (+)side of C306 on Sub Main C.B.A..
2. Adjust VR302 so that the waveform is minimized as shown below.

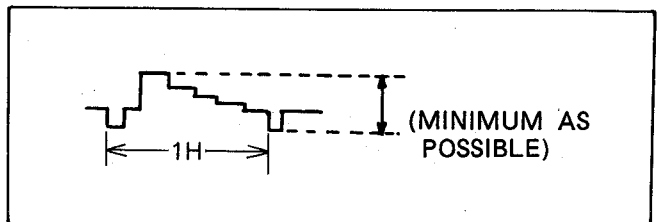


Fig.E9

2-3-10. SECAM KILLER ADJUSTMENT (NV-L20EE ONLY)

TP	ADJ.	MODE	INPUT
IC851-11	T851	RECORDING	SECAM VIDEO SIGNAL
TAPE	M.EQ.	SPEC.	
BLANK TAPE	OSCILLOSCOPE	Portion A is peak to negative direction.	

1. Adjust T851 so that the portion "A" becomes maximum waveform.

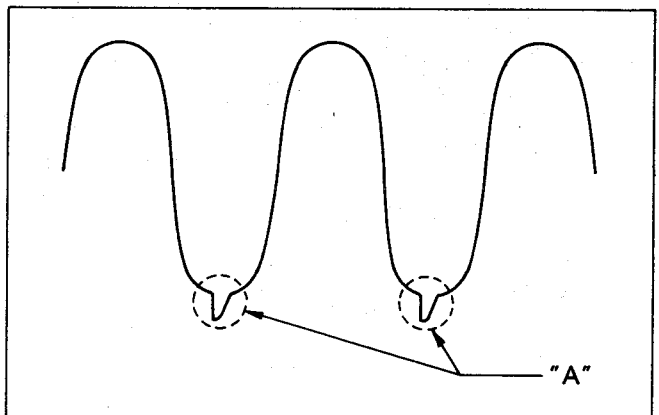


Fig.E10

AUDIO SECTION

2-3-11. AUDIO BIAS CURRENT ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP4002 (+) TP4003 (-)	VR4002	RECORDING	
TAPE	M.EQ.	SPEC.	
BLANK TAPE	V.T.V.M.	2.4+/-0.1mVrms	

TIMER SECTION

NOTE: Do not connect the AC power plug.

2-3-12. TIMER REFERENCE CLOCK ADJUSTMENT

(NV-L20EO/EV)

TP	ADJ.	MODE	INPUT
TP7501	C7501		
TAPE	M.EQ.	SPEC.	
	FREQUEN- CY COUNTER	7812.5+/-0.015us	

1. Connect a jumper wire between P7501-10 and 11.
2. Connect a jumper wire between P7501-8 and GND.

(NV-L20EE)

TP	ADJ.	MODE	INPUT
TP7501	C7501		
TAPE	M.EQ.	SPEC.	
	FREQUEN- CY COUNTER	488.2812+/-0.001us	

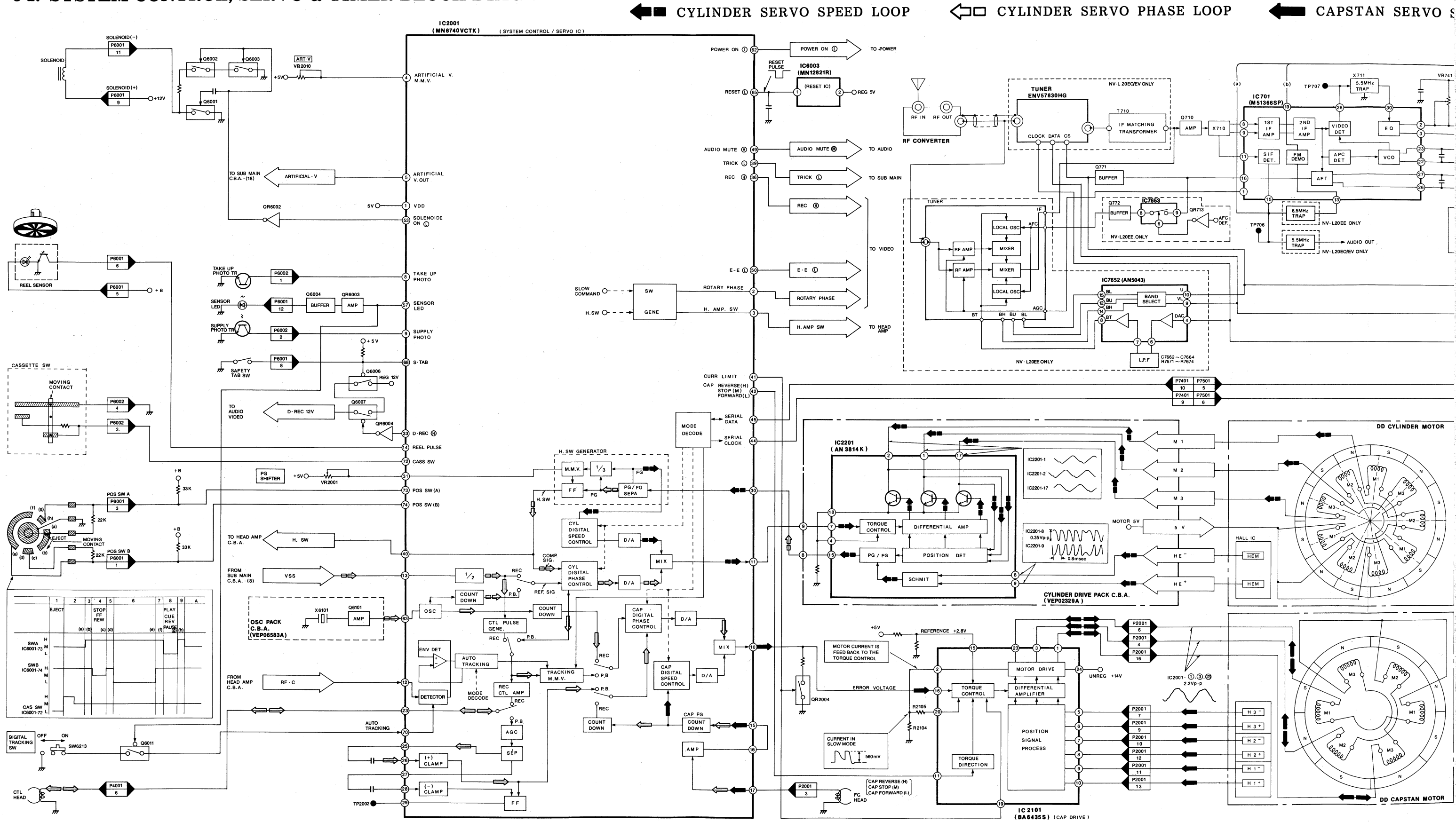
1. Connect a jumper wire between P7501-10 and 11.
2. Connect a jumper wire between P7501-8 and GND.
3. Connect a diode(MA165) between IC7501-36 and 56.

Memo:

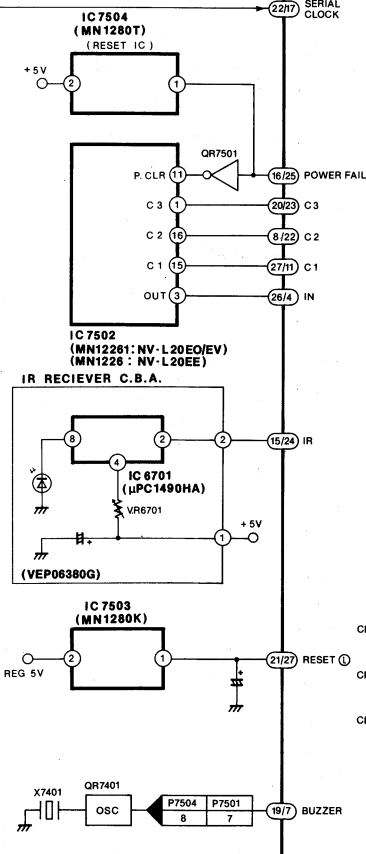
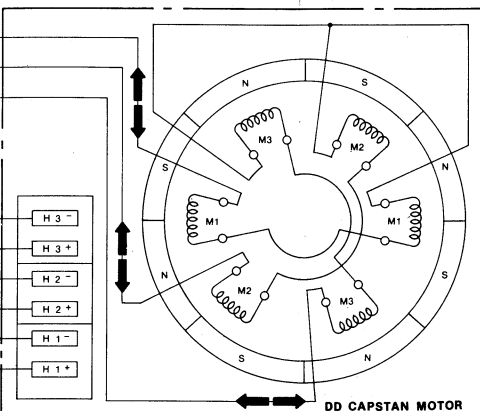
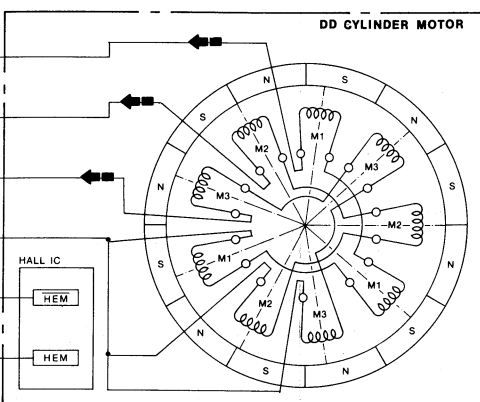
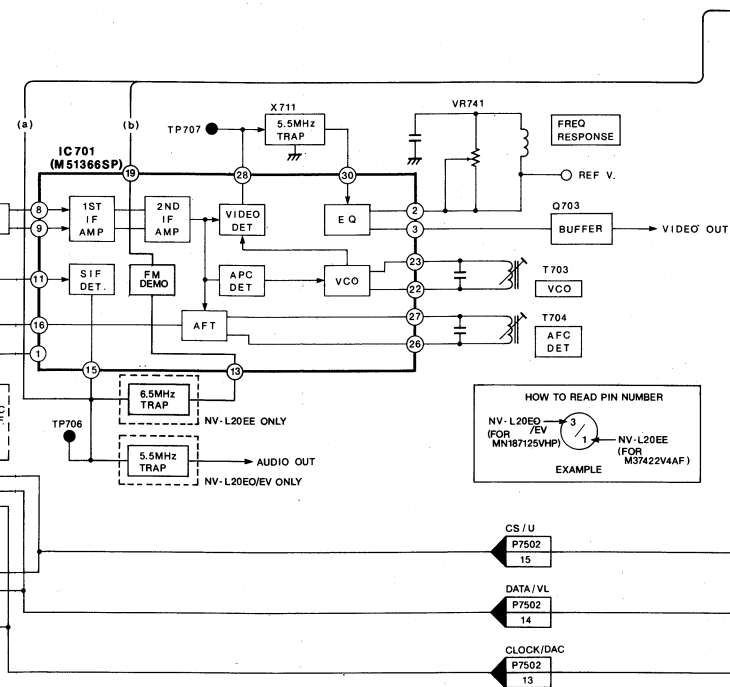
SECTION 3

BLOCK DIAGRAMS & SCHEMATIC DIAGRAMS

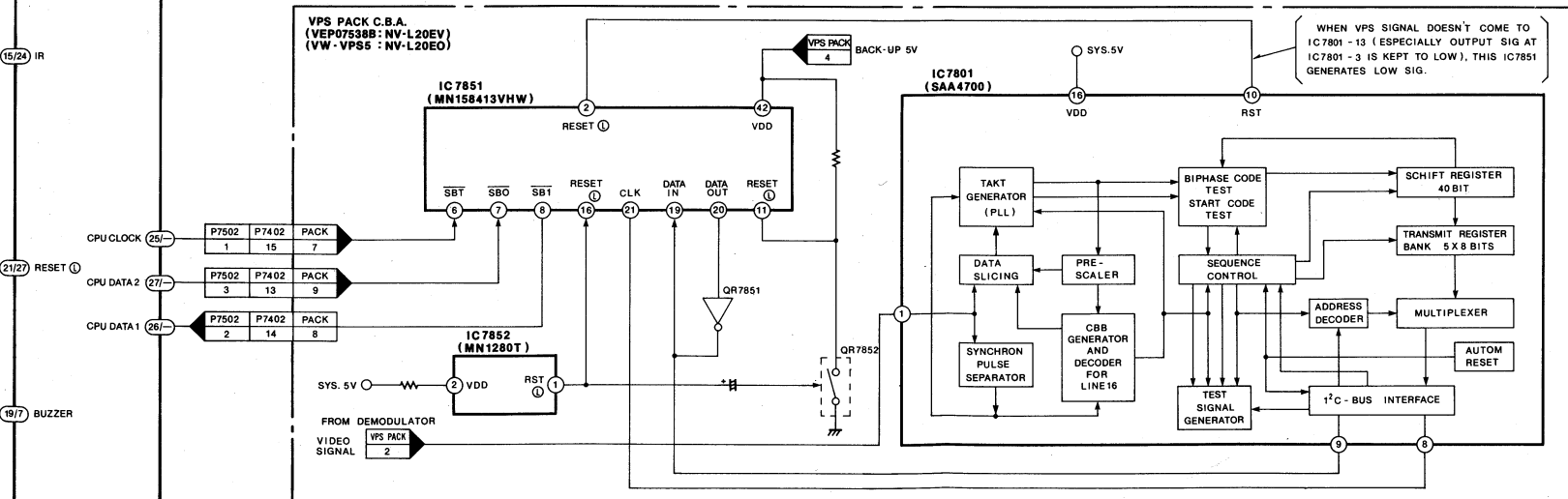
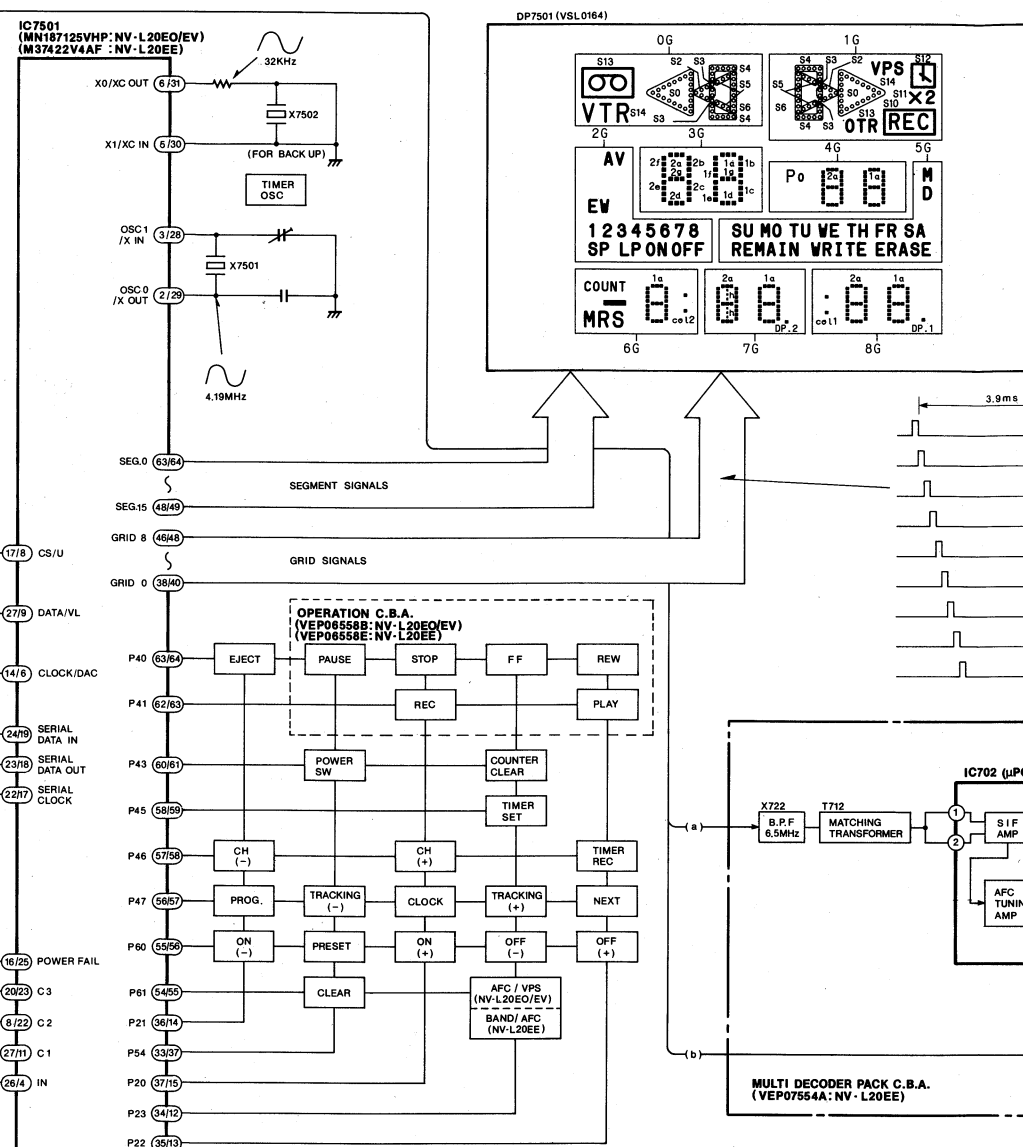
3-1. SYSTEM CONTROL, SERVO & TIMER BLOCK DIAGRAM

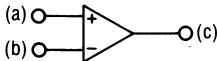
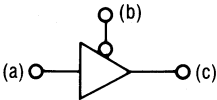
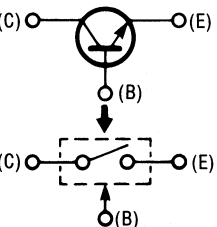
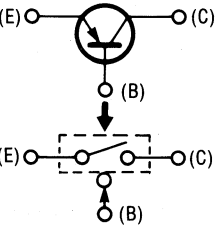
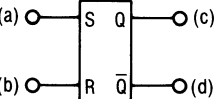


CAPSTAN SERVO SPEED LOOP



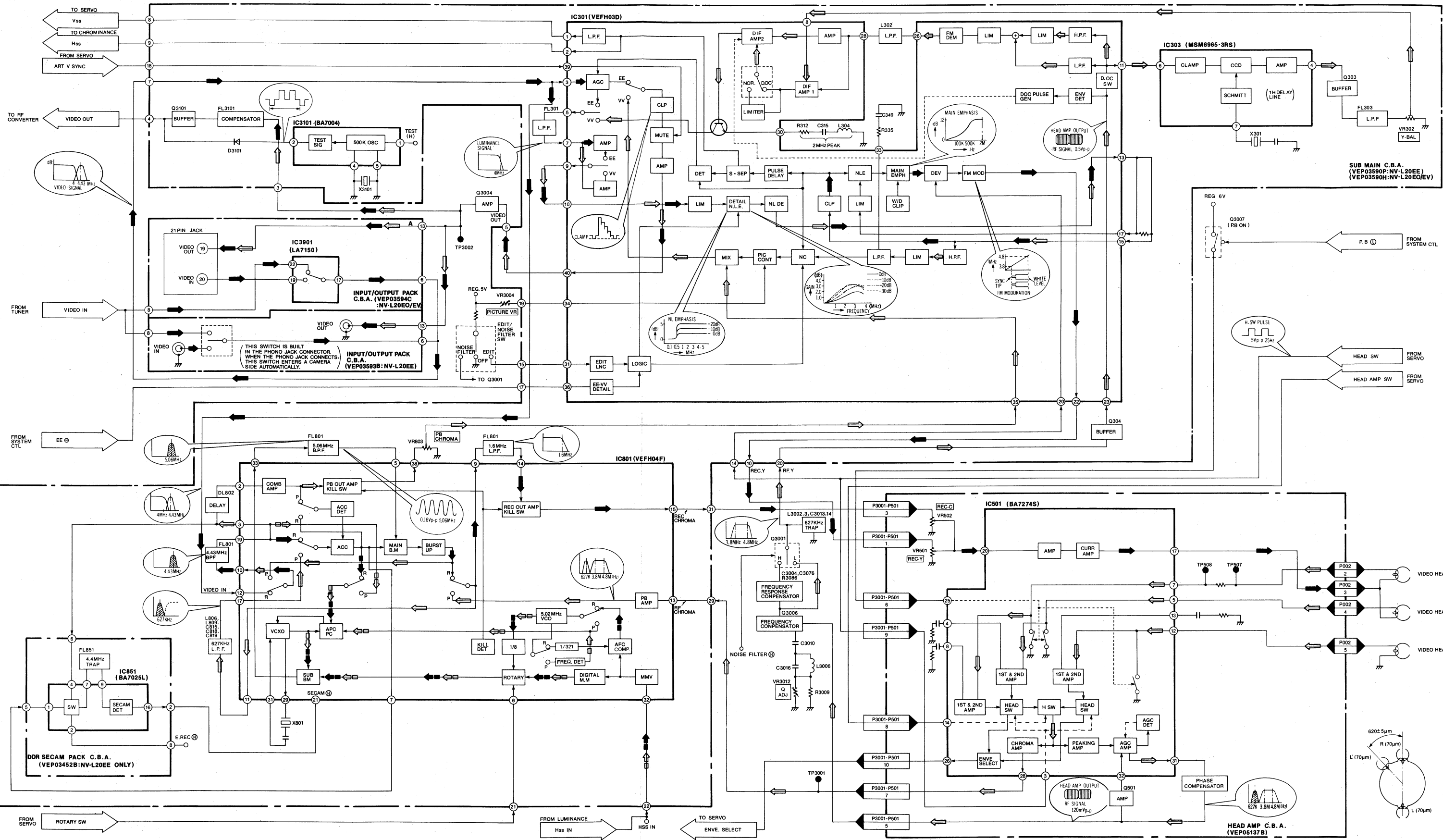
CAPSTAN SERVO PHASE LOOP



SYMBOL	TRUTH VALUE TABLE																				
INVERTER 	<table><tr><td>IN</td><td>(a)</td><td>H</td><td>L</td></tr><tr><td>OUT</td><td>(b)</td><td>L</td><td>H</td></tr></table>	IN	(a)	H	L	OUT	(b)	L	H												
IN	(a)	H	L																		
OUT	(b)	L	H																		
COMPARTOR 	<table><tr><td>IN</td><td>(a)</td><td>(a) > (b)</td><td>(a) < (b)</td></tr><tr><td></td><td>(b)</td><td></td><td></td></tr><tr><td>OUT</td><td>(c)</td><td>H</td><td>L</td></tr></table>	IN	(a)	(a) > (b)	(a) < (b)		(b)			OUT	(c)	H	L								
IN	(a)	(a) > (b)	(a) < (b)																		
	(b)																				
OUT	(c)	H	L																		
AND CIRCUIT 	<table><tr><td>IN</td><td>(a)</td><td>L</td><td>L</td><td>H</td><td>H</td></tr><tr><td></td><td>(b)</td><td>L</td><td>H</td><td>L</td><td>H</td></tr><tr><td>OUT</td><td>(c)</td><td>L</td><td>L</td><td>L</td><td>H</td></tr></table>	IN	(a)	L	L	H	H		(b)	L	H	L	H	OUT	(c)	L	L	L	H		
IN	(a)	L	L	H	H																
	(b)	L	H	L	H																
OUT	(c)	L	L	L	H																
OR CIRCUIT 	<table><tr><td>IN</td><td>(a)</td><td>L</td><td>L</td><td>H</td><td>H</td></tr><tr><td></td><td>(b)</td><td>L</td><td>H</td><td>L</td><td>H</td></tr><tr><td>OUT</td><td>(c)</td><td>L</td><td>H</td><td>H</td><td>H</td></tr></table>	IN	(a)	L	L	H	H		(b)	L	H	L	H	OUT	(c)	L	H	H	H		
IN	(a)	L	L	H	H																
	(b)	L	H	L	H																
OUT	(c)	L	H	H	H																
THREE STATES BUFFER 	<table><tr><td>IN</td><td>(a)</td><td>H</td><td>L</td><td>H or L</td></tr><tr><td></td><td>(b)</td><td>L</td><td>L</td><td>H</td></tr><tr><td>OUT</td><td>(c)</td><td>H</td><td>L</td><td>※</td></tr></table> ※ High Impedance	IN	(a)	H	L	H or L		(b)	L	L	H	OUT	(c)	H	L	※					
IN	(a)	H	L	H or L																	
	(b)	L	L	H																	
OUT	(c)	H	L	※																	
TR. SW (NPN TYPE) 	<table><tr><td>BASE</td><td>H</td><td>L</td></tr><tr><td>TR. SW</td><td>ON</td><td>OFF</td></tr></table>	BASE	H	L	TR. SW	ON	OFF														
BASE	H	L																			
TR. SW	ON	OFF																			
TR. SW (PNP TYPE) 	<table><tr><td>BASE</td><td>H</td><td>L</td></tr><tr><td>TR. SW</td><td>OFF</td><td>ON</td></tr></table>	BASE	H	L	TR. SW	OFF	ON														
BASE	H	L																			
TR. SW	OFF	ON																			
R-S TYPE FLIP-FLOP 	<table><tr><td>IN</td><td>(a)</td><td>L</td><td>L</td><td>⌈</td></tr><tr><td></td><td>(b)</td><td>L</td><td>⌋</td><td>L</td></tr><tr><td>OUT</td><td>(c)</td><td>※</td><td>L</td><td>H</td></tr><tr><td></td><td>(d)</td><td>◆</td><td>H</td><td>L</td></tr></table> ※ Initial condition is maintained. ◆ Initial condition is reversed.	IN	(a)	L	L	⌈		(b)	L	⌋	L	OUT	(c)	※	L	H		(d)	◆	H	L
IN	(a)	L	L	⌈																	
	(b)	L	⌋	L																	
OUT	(c)	※	L	H																	
	(d)	◆	H	L																	

3-2. LUMINANCE & CHROMINANCE BLOCK DIAGRAM

MAIN SIGNAL PATH IN REC MODE
MAIN SIGNAL PATH IN PLAYBACK MODE
5.06MHz PHASE ROTATIONAL SIGNAL IN REC MODE
5.06MHz PHASE ROTATIONAL SIGNAL IN PLAYBACK MODE



Back Page:
SYSTEM CONTROL & SERVO Section

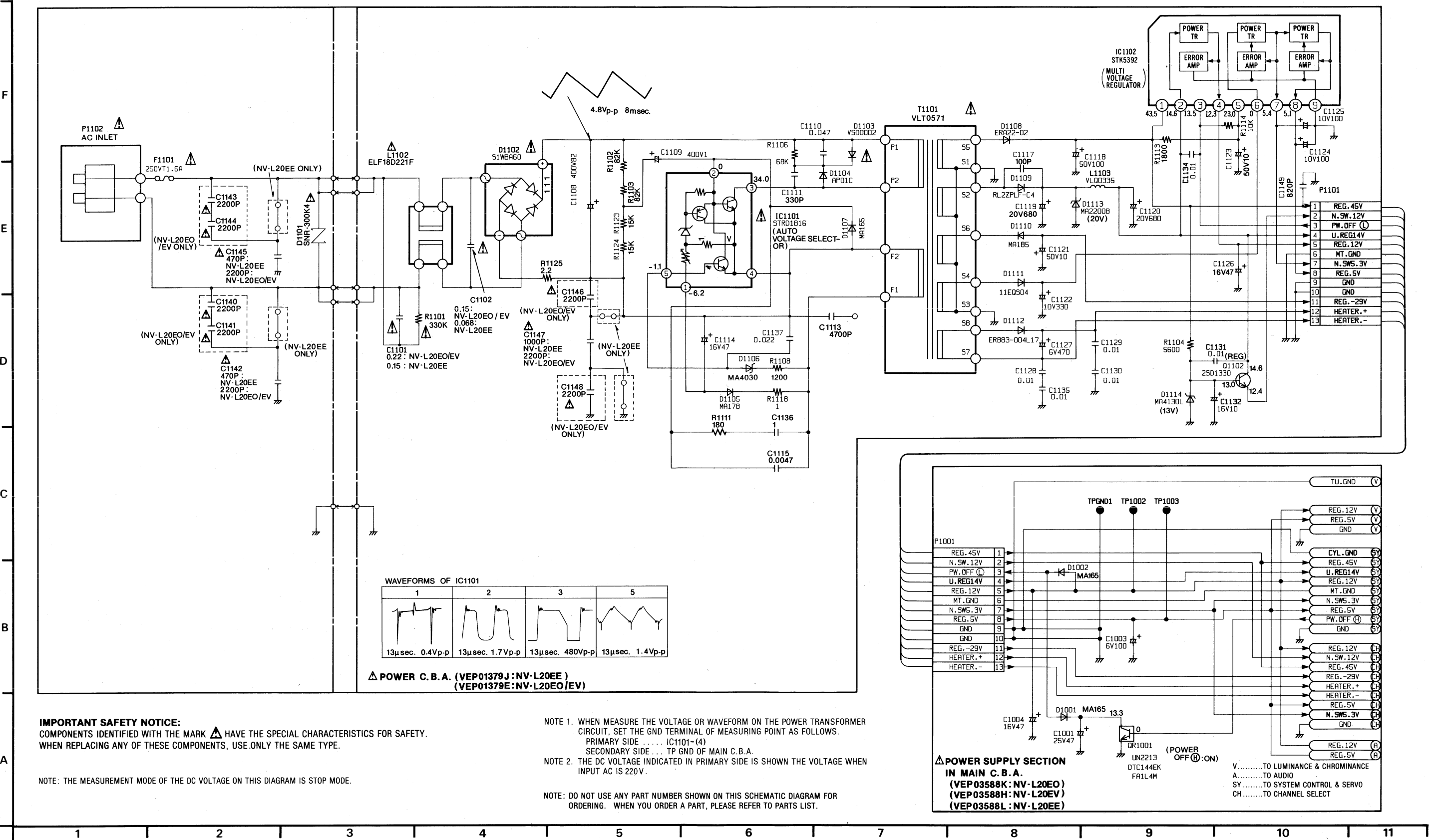
Block diagram of the SUB MAIN C.B.A. (VEP03590P:NV-L20EE). The diagram shows a signal path starting from an input terminal (labeled 01) through a capacitor and ground. The signal then enters a block labeled 'AMP' (1H DELAY LINE). The output of the AMP is connected to a junction point (labeled 4) which branches into two paths: one leading to a 'BUFFER' block and another leading to a 'Q303' block. The output of the BUFFER is connected to an 'L.P.F' (Low Pass Filter) block. The output of the L.P.F. is connected to a junction point (labeled 3) which branches into two paths: one leading to a 'VR302' block and another leading to a 'Y-BAL' block. The output of the Y-BAL is connected to a terminal labeled '120EE'.

SUB MAIN C.B.A.
(VEP03590P:NV-L20EE)
(VEP03590H:NV-L20EO(EV))

ADDRESS INFORMATION



3-4. POWER SCHEMATIC DIAGRAM



The diagram is a schematic representation of a circuit board layout. It features a grid of conductive traces on a grey background. Key components include:

- Resistors:** R6101, R6102, R6103, and R6104 are shown as zigzag lines.
- Capacitors:** C6101, C6102, C6103, C6104, and C6105 are shown as two parallel lines.
- Inductor:** L6101 is shown as a coiled line.
- Diode:** X6101 is shown as a rectangle with a diagonal line.
- Transistor:** Q6101 is shown as a rectangle with three internal circles labeled E, C, and B.

The components are interconnected by a network of conductive traces. A coordinate system is shown at the bottom with labels '1' and '2'.

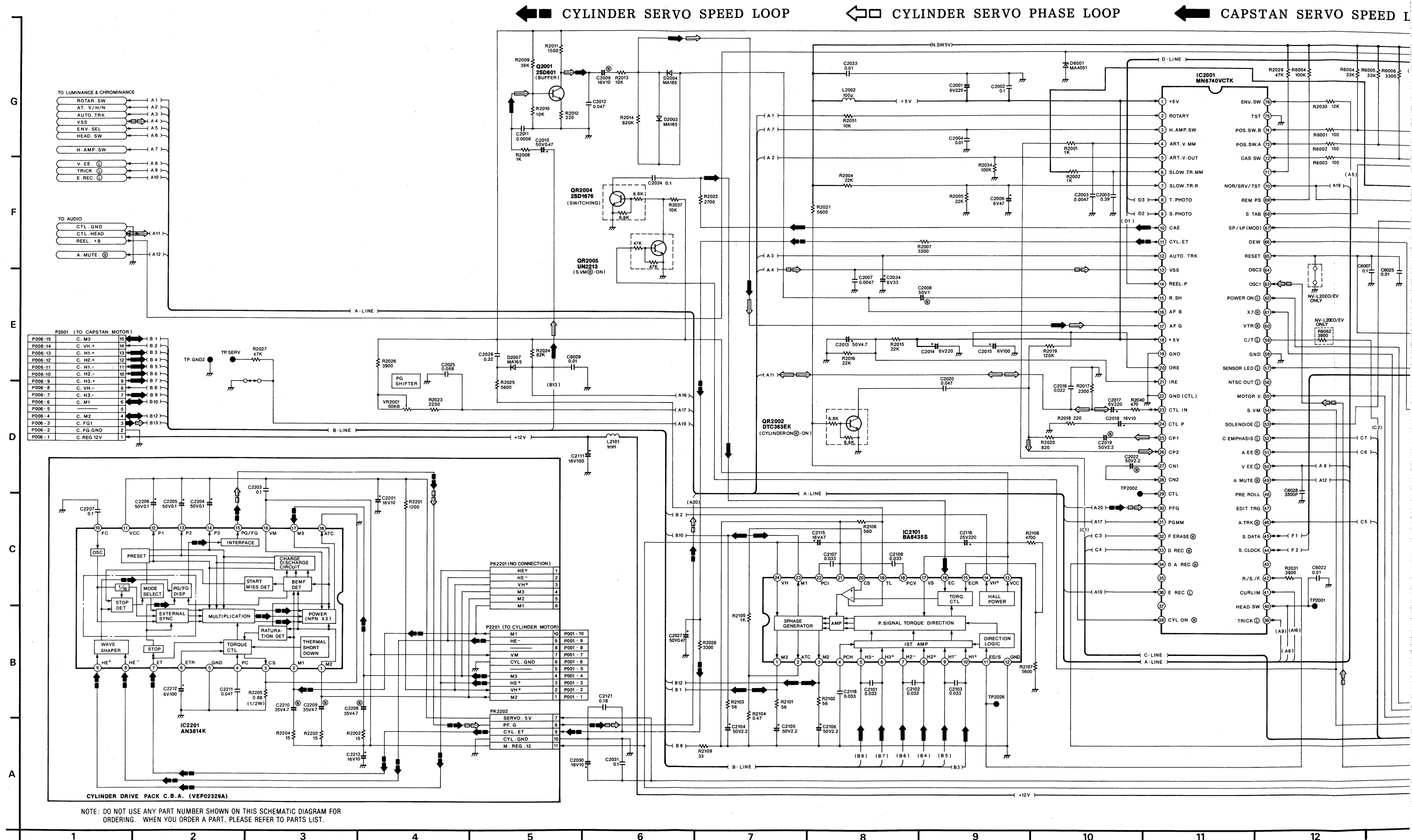
OSC PACK C.B.A.	
Transistor	
Q6101	B-1

ADDRESS INFORMATION

REF. NO.	IC2001																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
STOP	5.0	5.0	0	0	0	0	2.5	3.3	3.2	4.2	4.2	1.7	2.4	0.3	2.5	2.5	2.5	5.0	0	2.5
PLAY	5.0	2.7	0	0	0	0	2.5	3.2	3.2	2.5	2.5	2.1	2.4	5.2	2.4	2.4	2.5	5.0	0	2.5
FF	5.0	5.0	0	0	0	0	2.5	3.3	3.2	2.5	4.2	1.7	2.4	2.7	2.5	2.5	2.5	5.0	0	2.5
REF. NO.	IC2001																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
STOP	2.5	0	2.5	2.5	1.1	2.8	3.9	2.1	0	5.1	0.1	0	0	0	0	0.2	0	0	5.0	0
PLAY	2.5	0	2.4	2.4	1.1	2.3	3.8	3.0	3.5	1.1	3.1	0	0	0	5.0	0.2	0	4.9	5.0	3.0
FF	2.5	0	2.5	2.4	1.4	1.5	3.6	3.3	2.9	5.1	0.1	0	0	0	0	0.2	0	0	5.0	0
REF. NO.	IC2001																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
STOP	4.9	2.0	0	4.7	4.5	0	0	5.0	0	0	5.0	0	5.0	0	0	5.0	4.6	0	0	0
PLAY	4.9	0	0	4.6	4.6	0	0	5.0	0	5.0	0	5.0	5.0	0	4.9	5.0	4.6	0	0	0
FF	4.9	0	0	4.7	4.7	0	0	5.0	0	0	5.0	0	5.0	0	0	5.0	4.6	0	0	0
REF. NO.	IC2001																			
MODE	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76				
STOP	5.0	0	0	2.5	5.0	0	0	0.5	5.0	4.7	5.0	2.1	5.0	2.0	0	0.1				
PLAY	5.0	0	2.5	2.5	5.0	0	0	0.5	5.0	4.7	5.0	2.1	0	5.0	0	4.5				
FF	5.0	0	2.5	—	5.0	0	0	0.5	5.0	4.6	5.0	2.1	5.0	2.0	0	0.1				
REF. NO.	IC2101																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
STOP	7.2	0	7.2	1.3	2.1	2.2	2.1	2.2	2.2	2.1	2.0	0	5.1	3.8	2.8	0.1	5.1	0	0.4	0
PLAY	2.1	0	2.0	1.3	2.2	2.2	2.1	2.1	2.2	2.2	0	0	5.1	3.8	2.8	2.5	5.1	0.6	0.4	0
FF	3.2	0	3.2	1.3	2.2	2.2	2.2	2.2	2.2	2.2	0	0	5.1	3.9	2.8	2.5	5.1	0.5	0.4	0
REF. NO.	IC2101																			
MODE	21	22	23	24																
STOP	0	0.5	7.2	14.3																
PLAY	0	0.6	2.0	10.3																
FF	0	0.6	3.0	14.2																
REF. NO.	IC2201																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18		
STOP	13.3	13.8	0	0	0	2.6	4.2	0.5	0.4	1.3	5.2	4.3	4.3	4.0	5.1	13.8	13.8	0		
PLAY	9.8	9.8	0	0.5	0	2.6	2.5	0.5	0.5	2.8	5.1	3.7	3							

REF. NO. MODE	Q2001			Q2002			Q6001			Q6002			Q6003			Q6004		
	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	0.4	2.5	1.0	5.1	5.4	0	0	14.6	0.1	0	14.6	0.1	0	0.2	0	0.6	14.3	0.5
PLAY	0.4	2.4	1.0	5.1	5.4	5.8	0	14.4	0.1	0.1	14.4	0.1	0	0.2	0	0.5	10.4	0.3
FF	0.4	2.5	1.0	5.1	5.4	5.0	0	14.4	0.1	0.1	14.5	0.2	0	0	0	0.6	14.1	0.3
REF. NO. MODE	Q6006			Q6007			Q6008			Q6010			Q6011					
	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B			
STOP	12.3	12.3	11.5	12.3	-0.2	12.3	14.2	14.6	14.7	14.7	43.7	15.2	4.7	0	4.6			
PLAY	12.3	12.2	11.5	12.2	-0.2	12.2	10.4	14.4	11.0	11.0	43.8	11.5	4.7	0	4.6			
FF	12.3	12.3	11.5	12.3	-0.2	12.3	14.1	14.4	14.7	14.7	43.7	15.2	4.7	0	4.6			
REF. NO. MODE	QR2002			QR2004			QR2005			QR6002			QR6003			QR6004		
	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	0	0	0	0	0	2.6	0	2.6	0	5.1	0	5.0	5.1	0.6	4.6	0	12.3	0
PLAY	0	0	4.9	0	0	2.6	0	2.6	0	5.1	0	5.0	5.1	0.3	4.6	0	12.3	0
FF	0	1.1	0	0	0	2.6	0	2.6	0	5.1	0	5.0	5.1	0.3	4.6	0	12.3	0
REF. NO. MODE	QR6007			QR6011			QR6012											
	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	0	15.2	0	0	15.2	0	0	0	0									
PLAY	0	0.1	4.9	0	11.5	0	0	0	0									
FF	0	15.2	0	0	15.2	0	0	0	0									

3-7. SYSTEM CONTROL & SERVO SCHEMATIC DIAGRAM

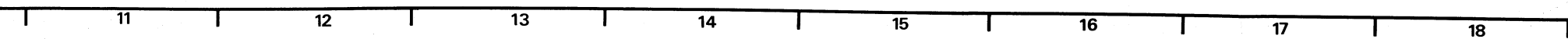




A
B
C
D
E
F
G



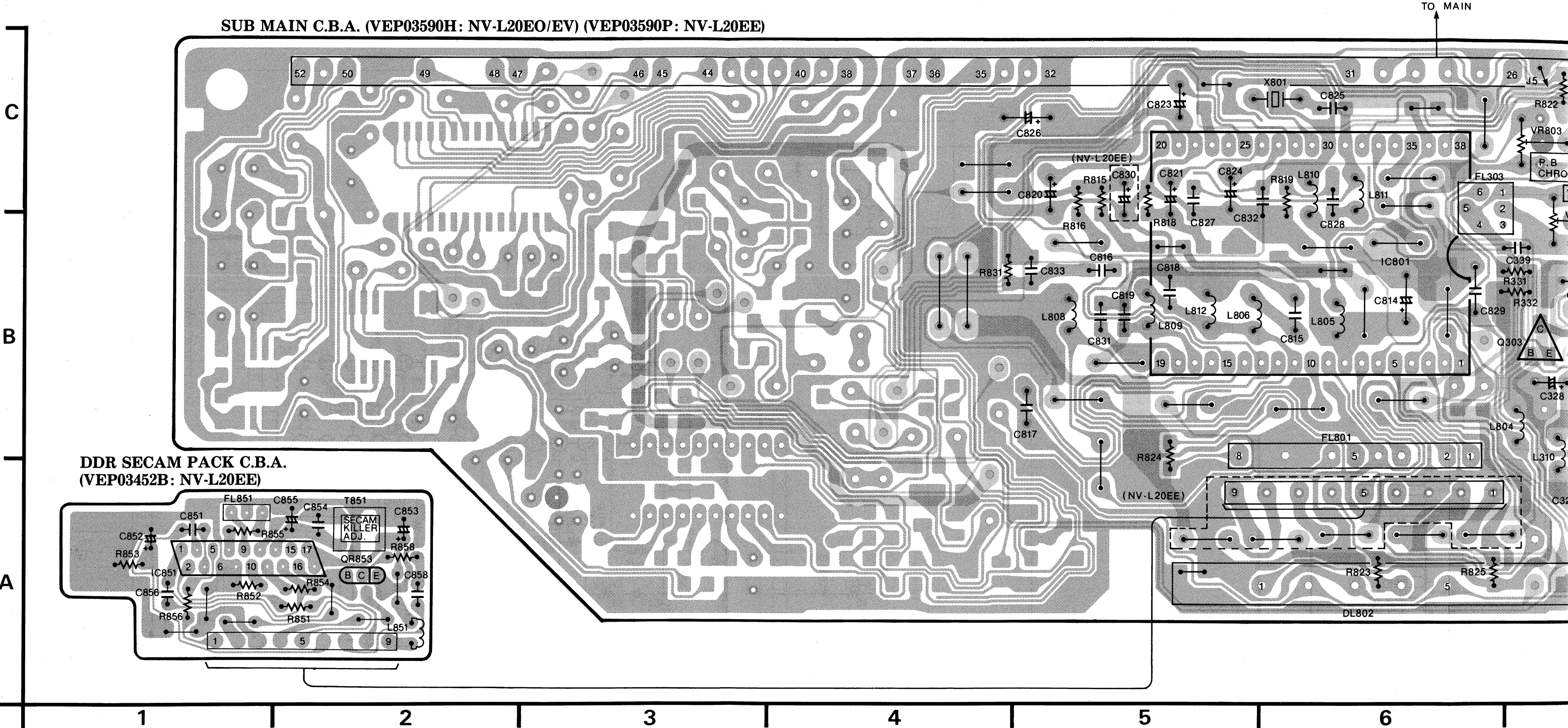
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS () ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL.
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL.



3—20

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3-9. SUB MAIN C.B.A. (VEP03590H: NV-L20EO/EV) (VEP03590P: NV-L20EE)



SUB MAIN C.B.A.				
Transistor		IC801		B-6
Q301	A-9	IC851		A-1
Q302	B-7	IC3101		B-12
Q303	B-7	Adjustment		
Q304	C-9	T851		A-2
Q804	C-7	VR302		C-7
Q3101	B-11	VR803		C-7
Transistor & Resistor				
QR853	A-2			
Integrated Circuit				
IC301	B-10			
IC303	B-7			

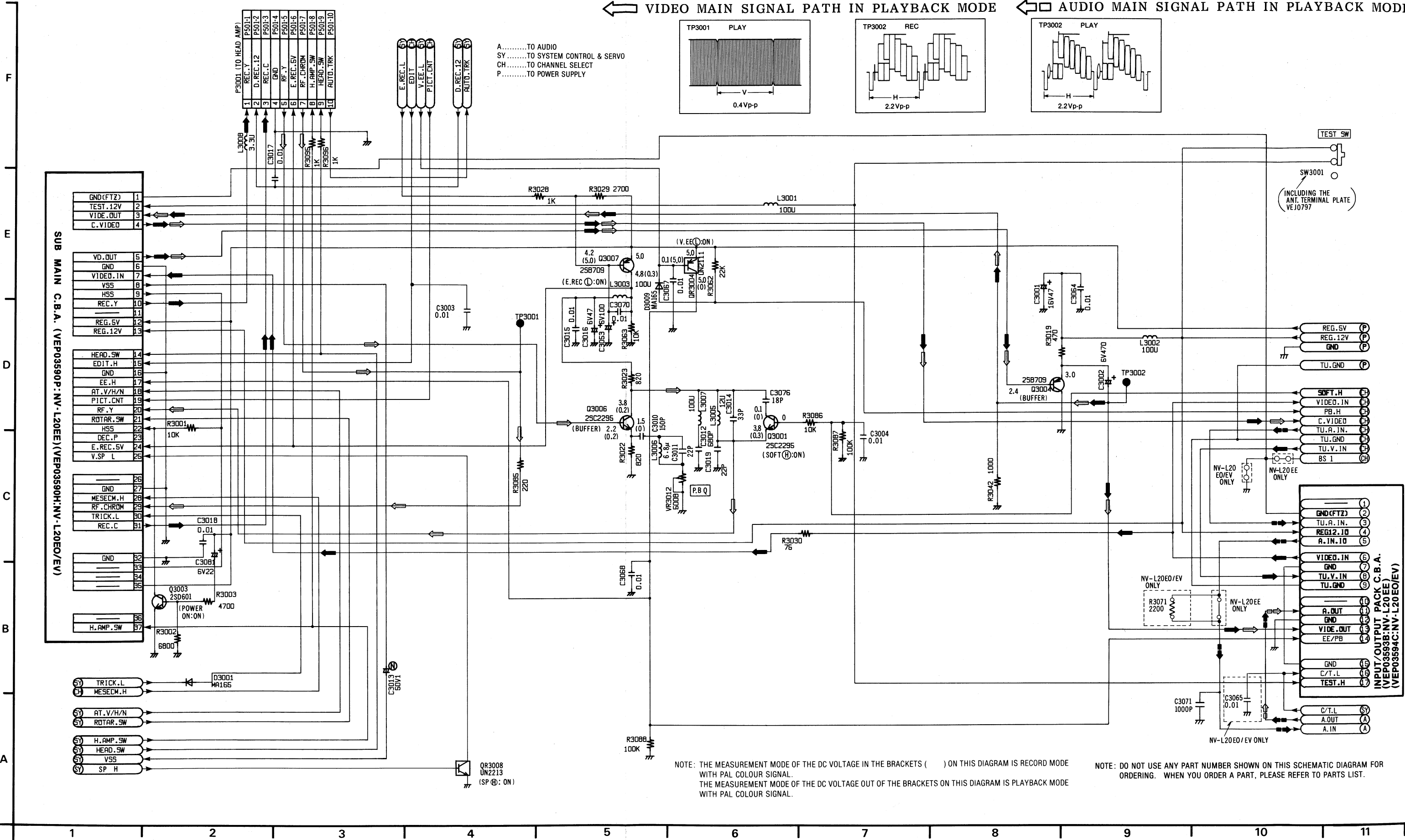
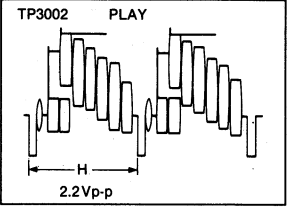
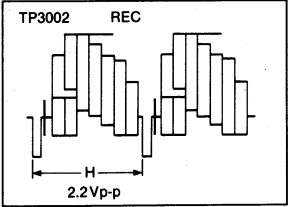
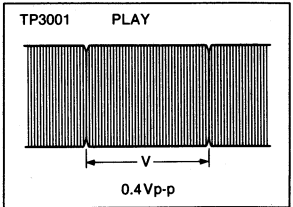
ADDRESS INFORMATION



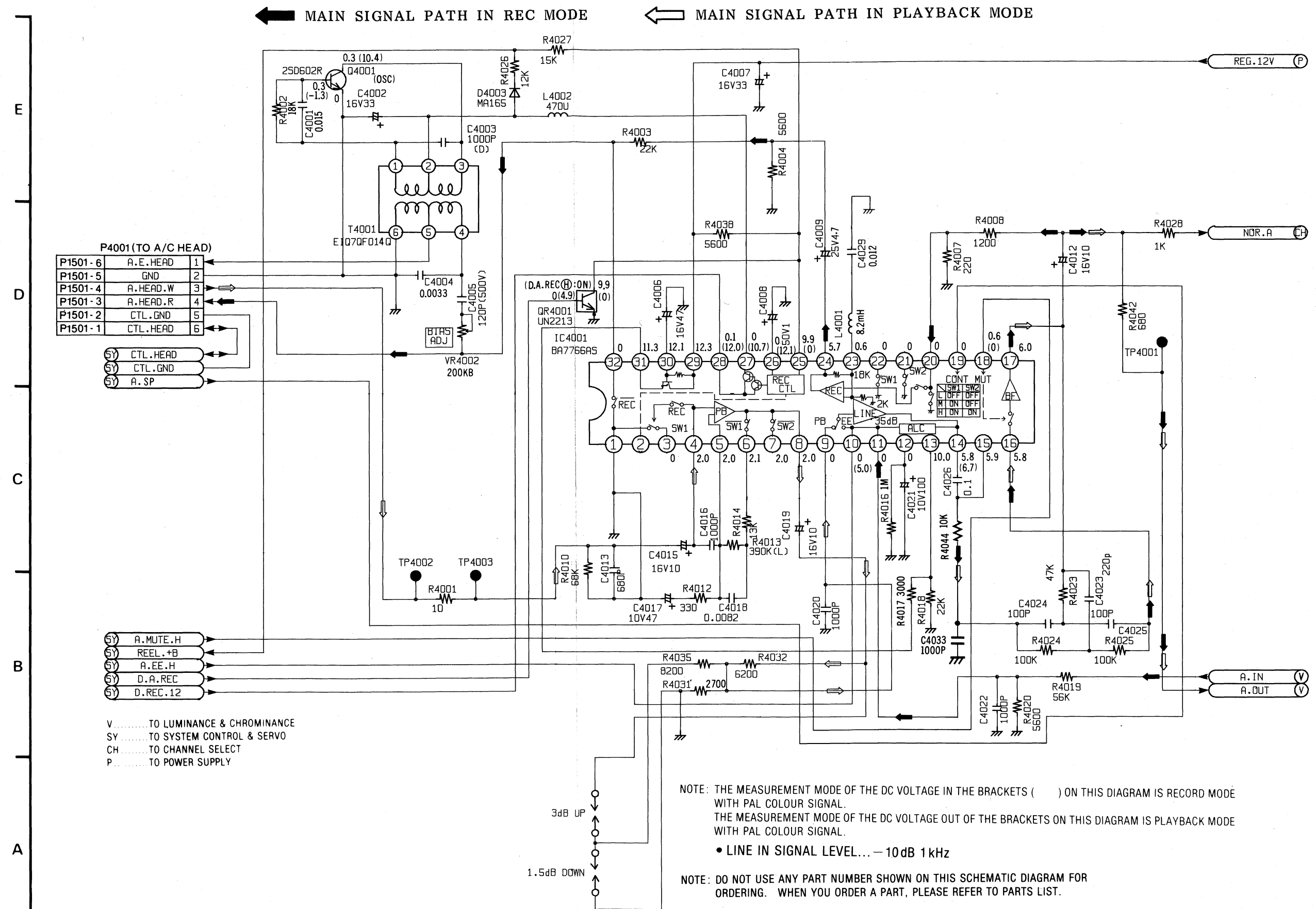
3-10. LUMINANCE & CHROMINANCE SCHEMATIC DIAGRAM

VIDEO MAIN SIGNAL PATH IN REC MODE
VIDEO MAIN SIGNAL PATH IN PLAYBACK MODE

AUDIO MAIN SIGNAL PATH IN REC MODE
AUDIO MAIN SIGNAL PATH IN PLAYBACK MODE



PATH IN REC MODE
PATH IN PLAYBACK MODE

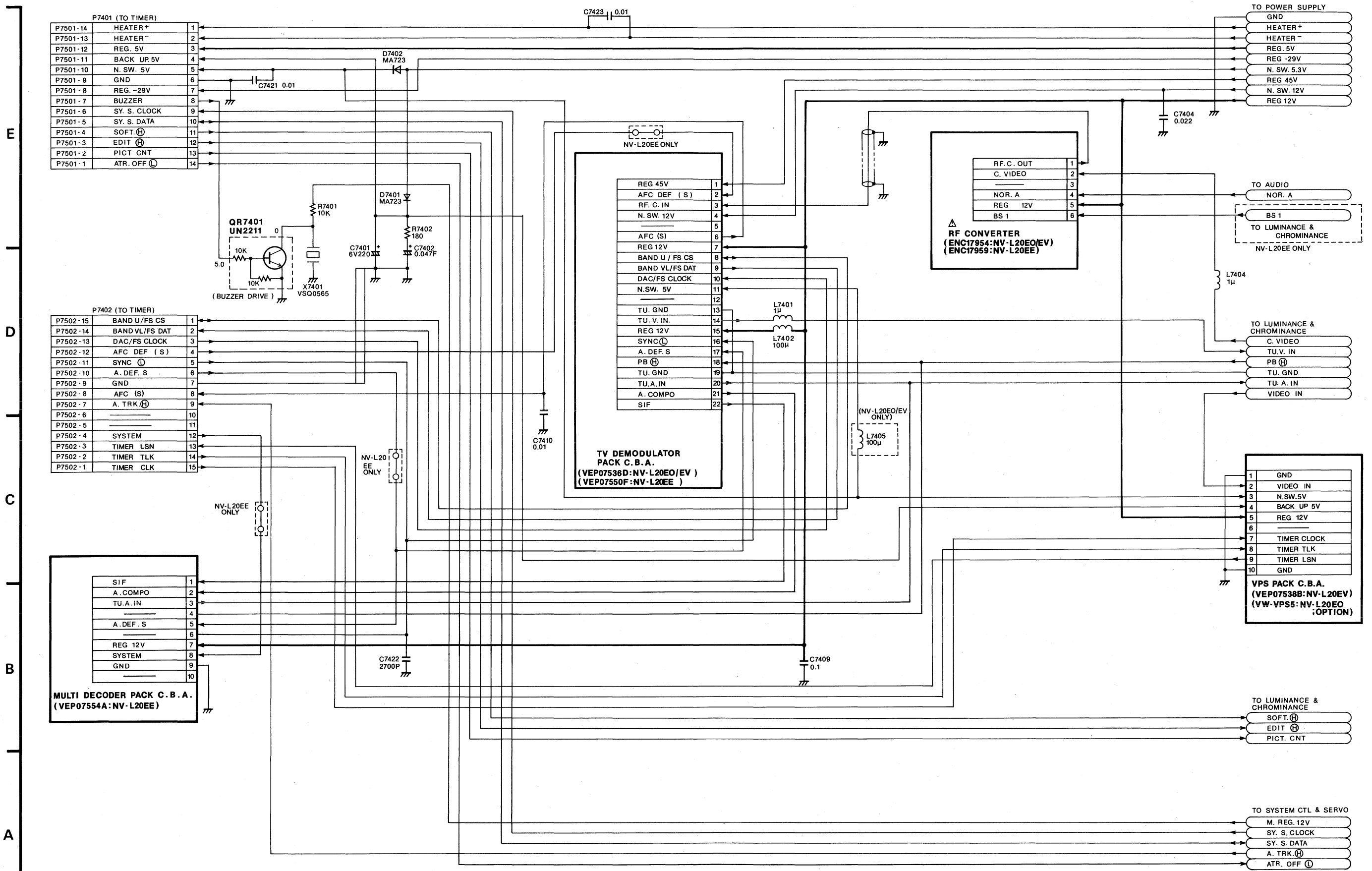


NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS () ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL.
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL.

- LINE IN SIGNAL LEVEL...—10dB 1 kHz

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

3-12. CHANNEL SELECT SCHEMATIC DIAGRAM



NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

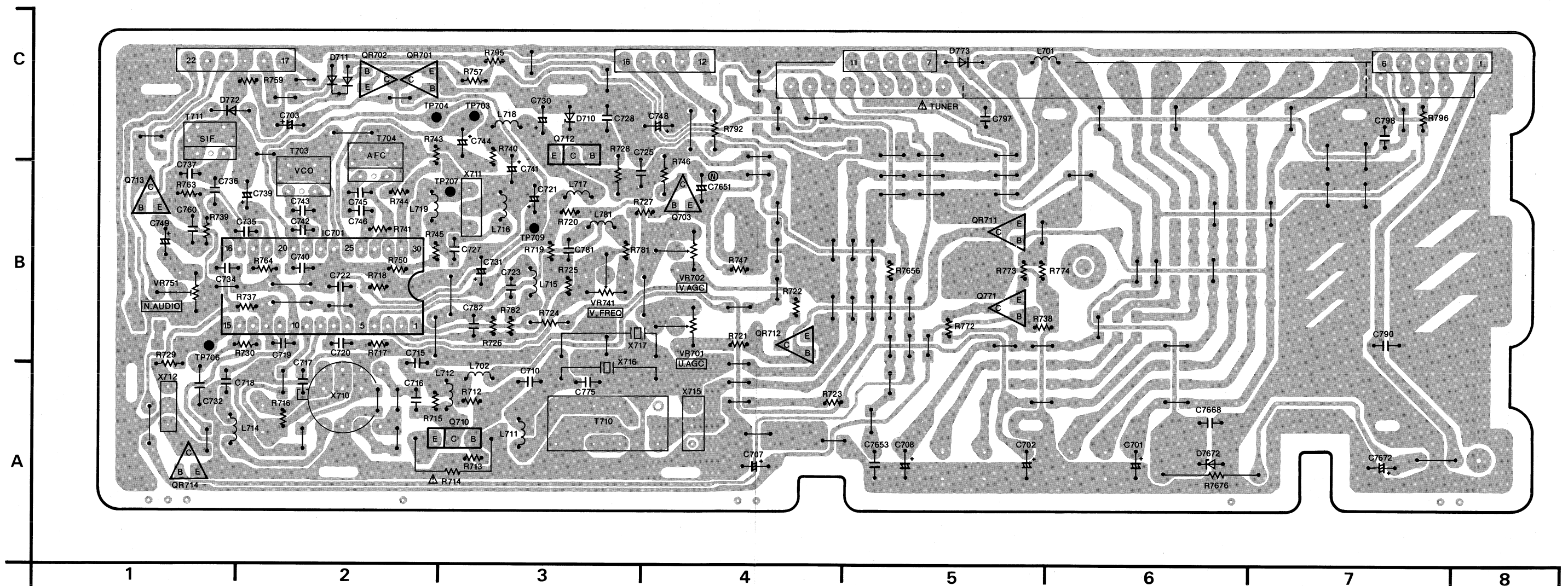
IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK Δ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

3-13. TV DEMODULATOR PACK C.B.A. (VEP07536D: NV-L20EO/EV)

TV DEMODULATOR PACK C.B.A.			
Transistor		Test Point	
Q703	B-4	TP703	C-3
Q710	A-3	TP704	C-2
Q712	C-3	TP706	B-1
Q713	B-1	TP707	B-3
Q771	B-5	TP709	B-3
Transistor & Resistor		Adjustment	
QR701	C-2	T703	B-2
QR702	C-2	T704	C-2
QR711	B-5	T710	A-3
QR712	B-4	T711	C-1
QR714	A-1	VR701	B-4
Integrated Circuit		VR702	B-4
		VR741	B-3
IC701	B-2	VR751	B-1

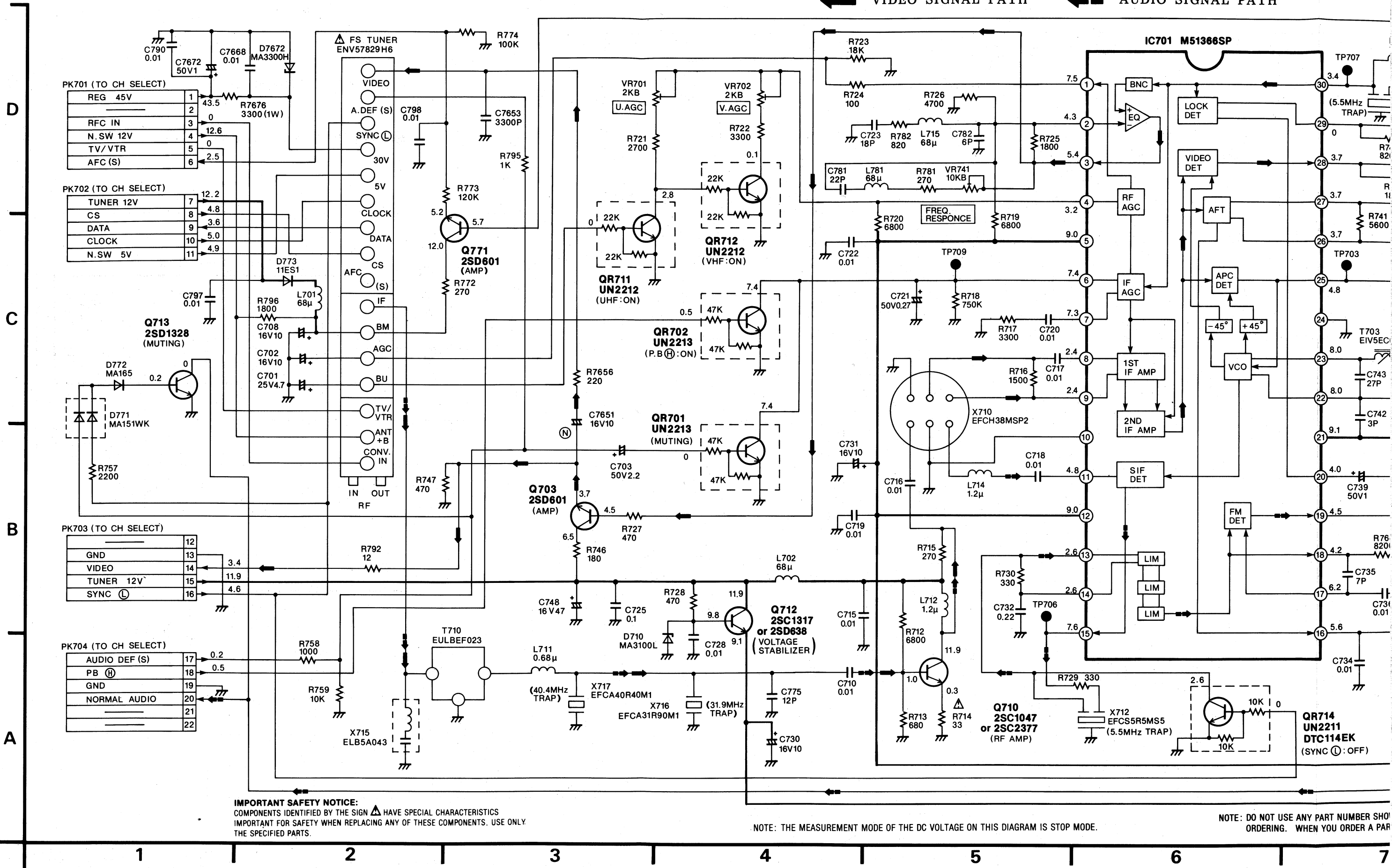
ADDRESS INFORMATION



Back Page:
CHANNEL SELECT Section

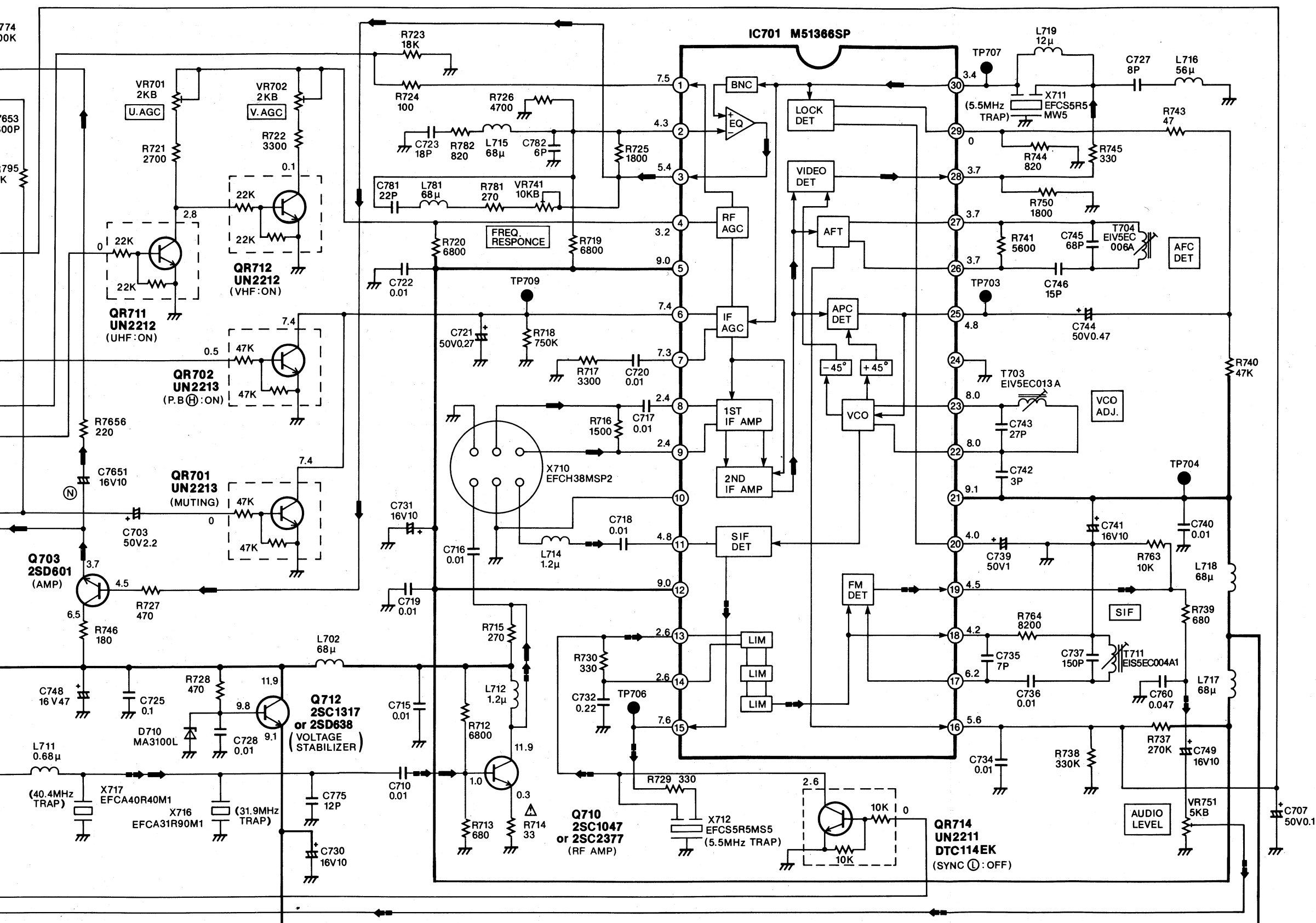
3-14. TV DEMODULATOR PACK SCHEMATIC DIAGRAM (NV-L20EO/EV)

VIDEO SIGNAL PATH AUDIO SIGNAL PATH



VIDEO SIGNAL PATH

AUDIO SIGNAL PATH



3

4

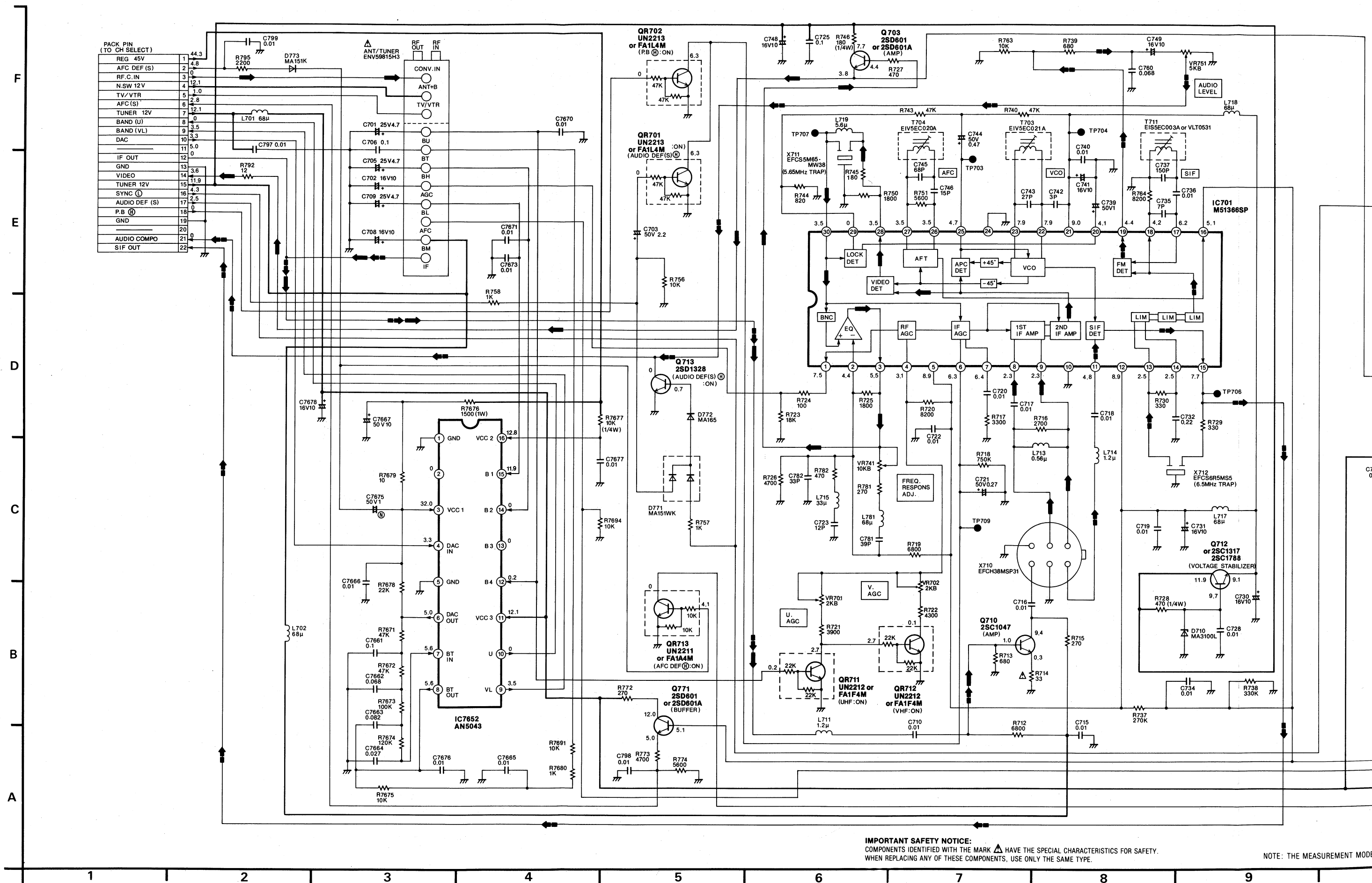
5

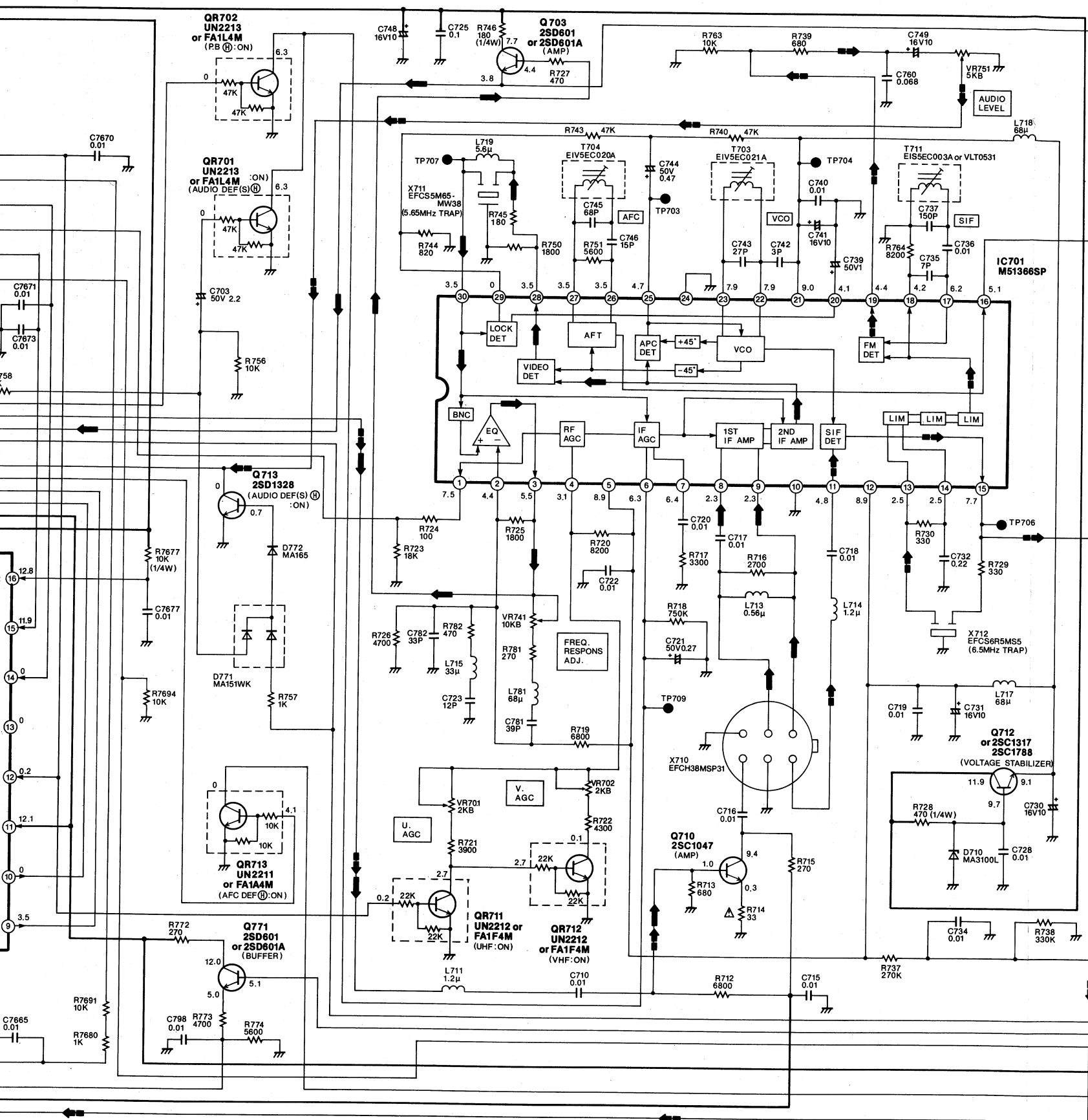
6

7

8

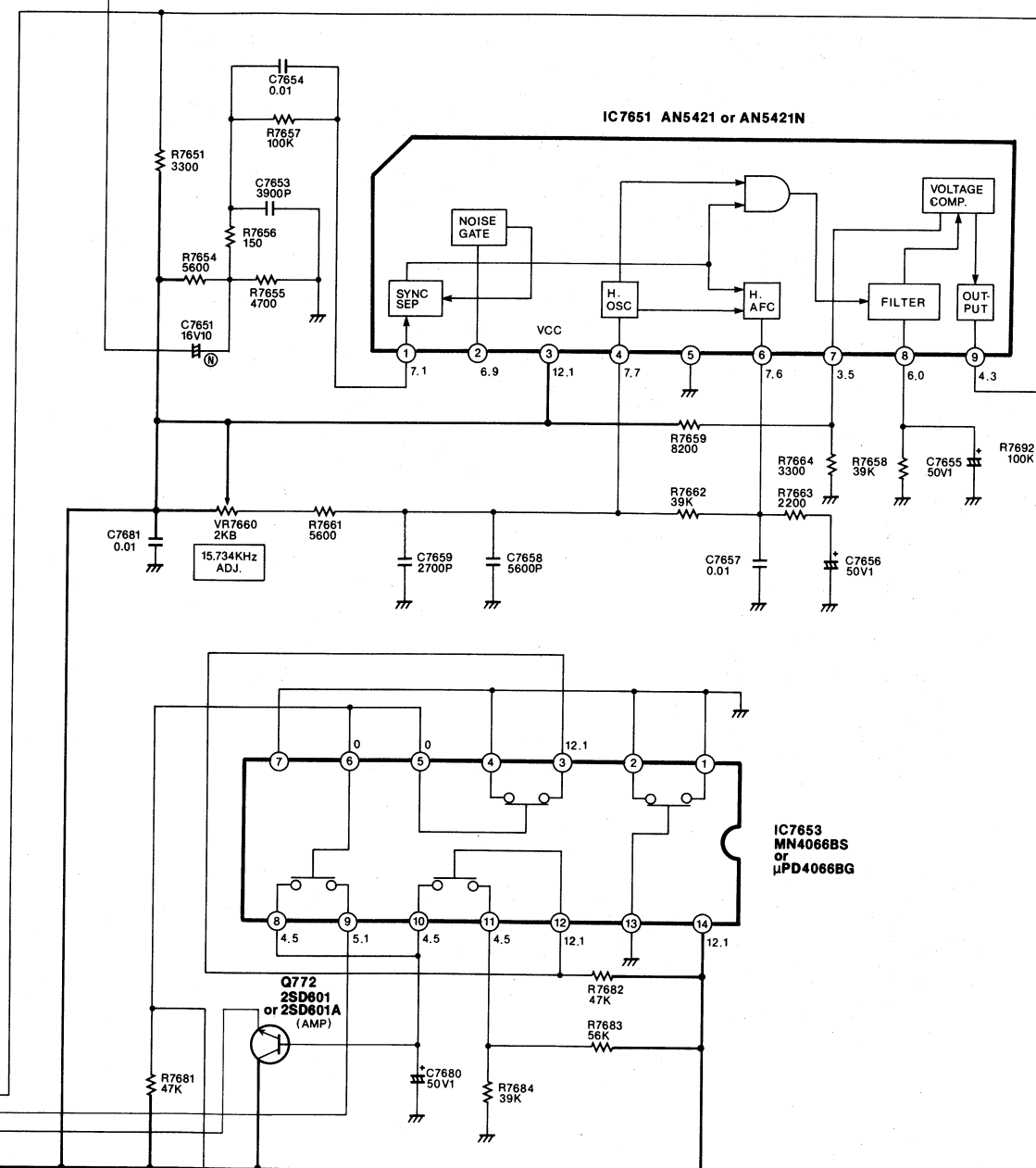
3-15. TV DEMODULATOR PACK SCHEMATIC DIAGRAM (NV-L20EE)





← VIDEO SIGNAL PATH

← AUDIO SIGNAL PATH



IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK Δ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

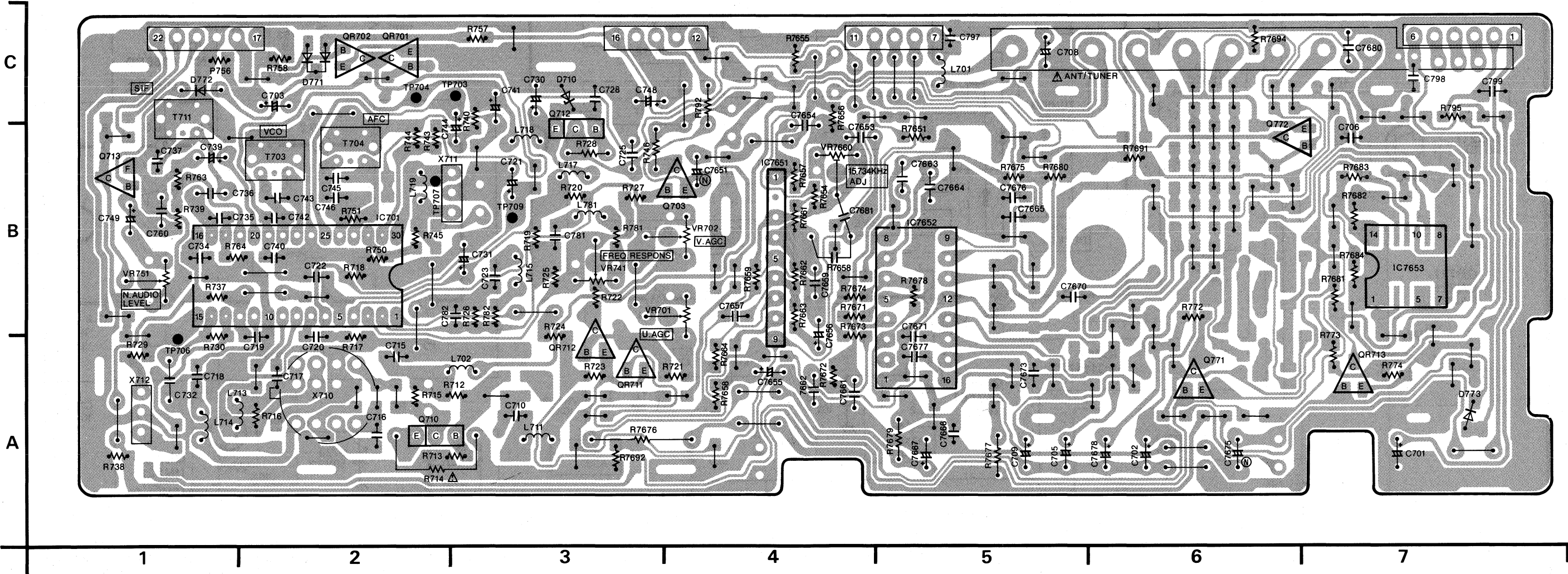
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

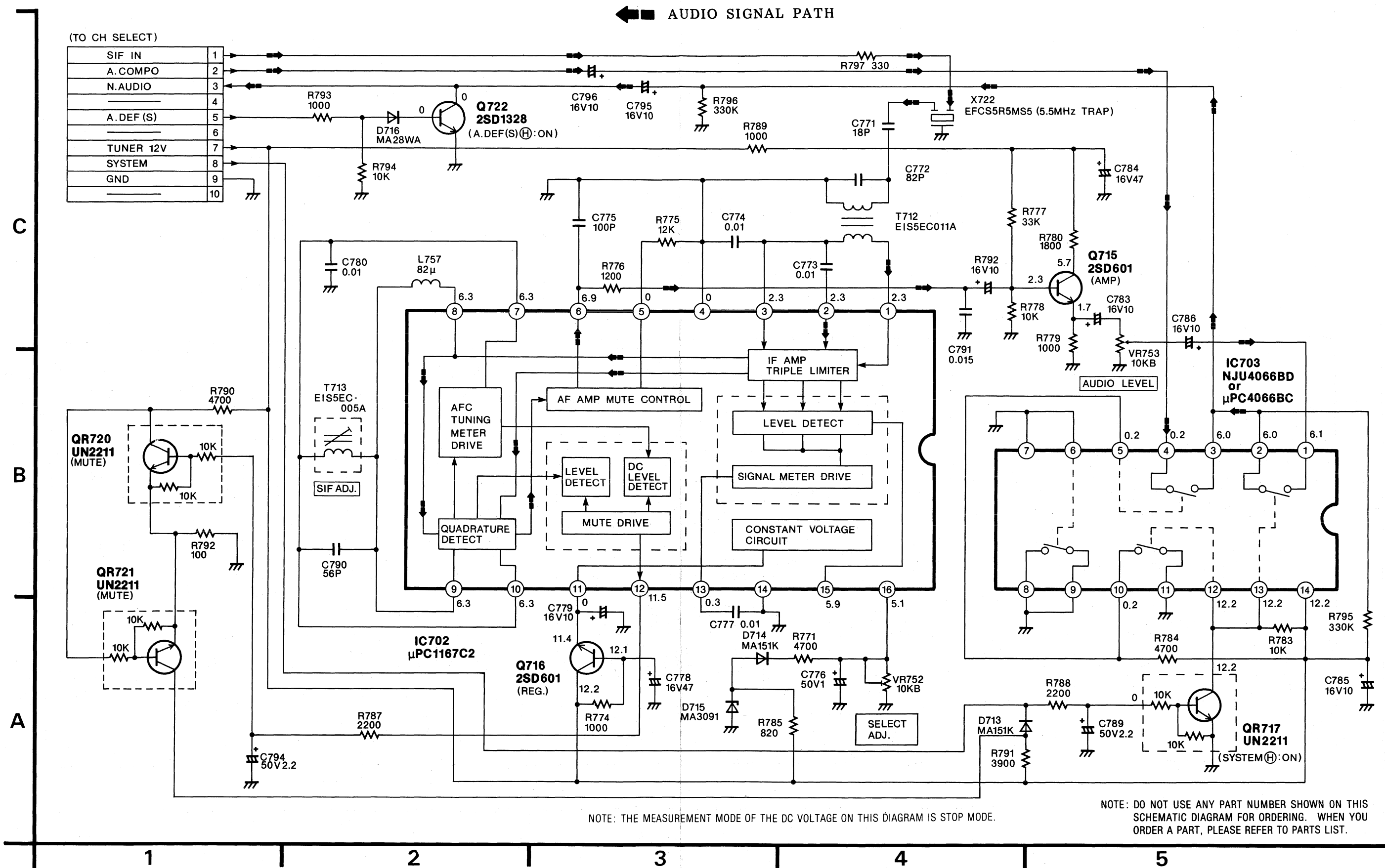
3-16. TV DEMODULATOR PACK C.B.A. (VEP07550F: NV-L20EE)

TV DEMODULATOR PACK C.B.A.			
Transistor		Test Point	
Q703	B-4	TP703	C-3
Q710	A-2	TP704	C-2
Q712	C-3	TP706	A-1
Q713	B-1	TP707	B-2
Q771	A-6	TP709	B-3
Q772	B-6	Adjustment	
Transistor & Resistor		T703	B-2
QR701	C-2	T704	B-2
QR702	C-2	T711	C-1
QR711	A-3	VR701	B-3
QR712	A-3	VR702	B-4
QR713	A-7	VR741	B-3
Integrated Circuit		VR751	B-1
IC701	B-2	VR7660	B-4
IC7651	B-4		
IC7652	B-5		
IC7653	B-7		

ADDRESS INFORMATION



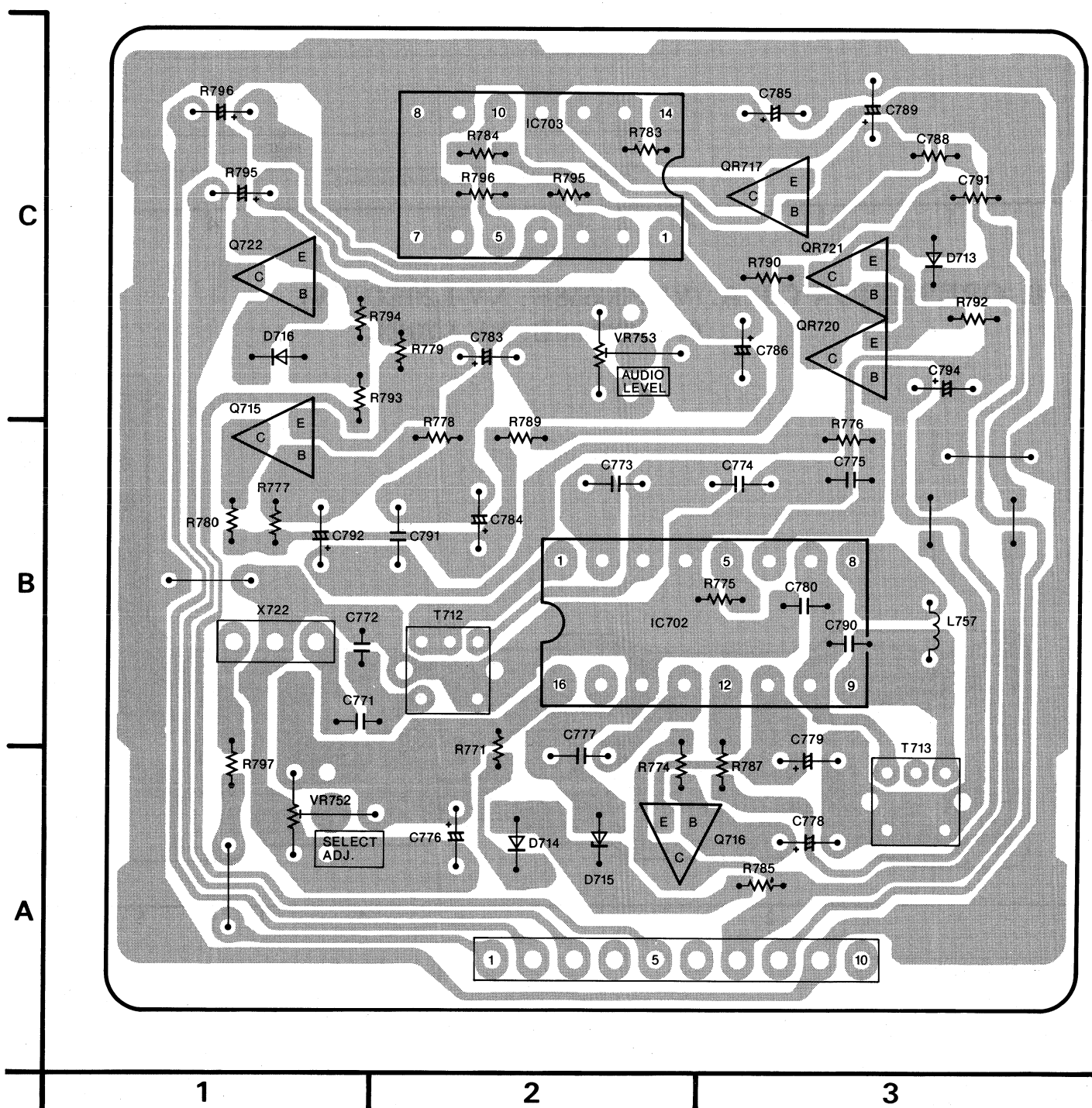
3-17. MULTI DECODER PACK SCHEMATIC DIAGRAM



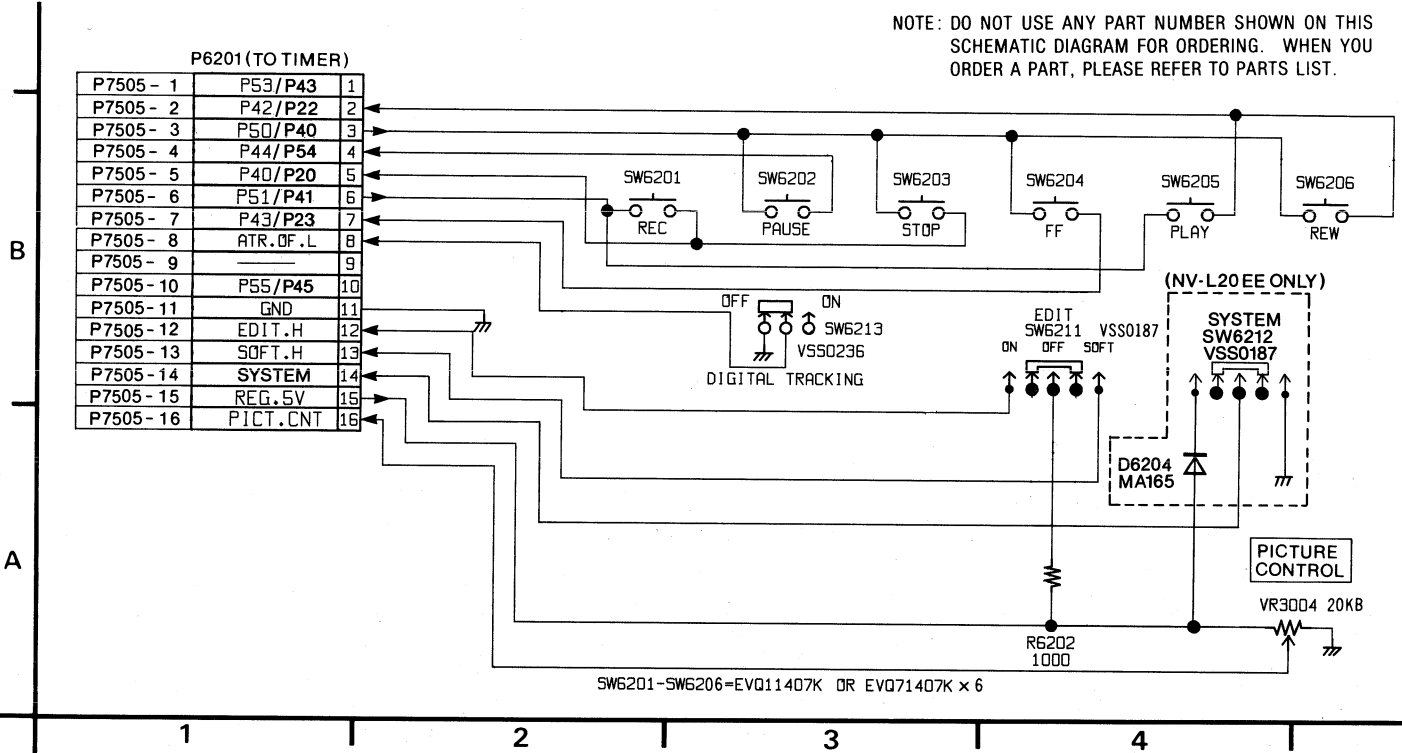
3-18. MULTI DECODER PACK C.B.A. (VEP07554A: NV-L20EE)

MULTI DECODER PACK C.B.A.			
Transistor		Integrated Circuit	
Q715	C-1	IC702	B-2
Q716	A-3	IC703	C-2
Q722	C-1	Adjustment	
Transistor & Resistor		T712	B-2
QR717	C-3	T713	A-3
QR720	C-3	VR752	A-1
QR721	C-3	VR753	C-2

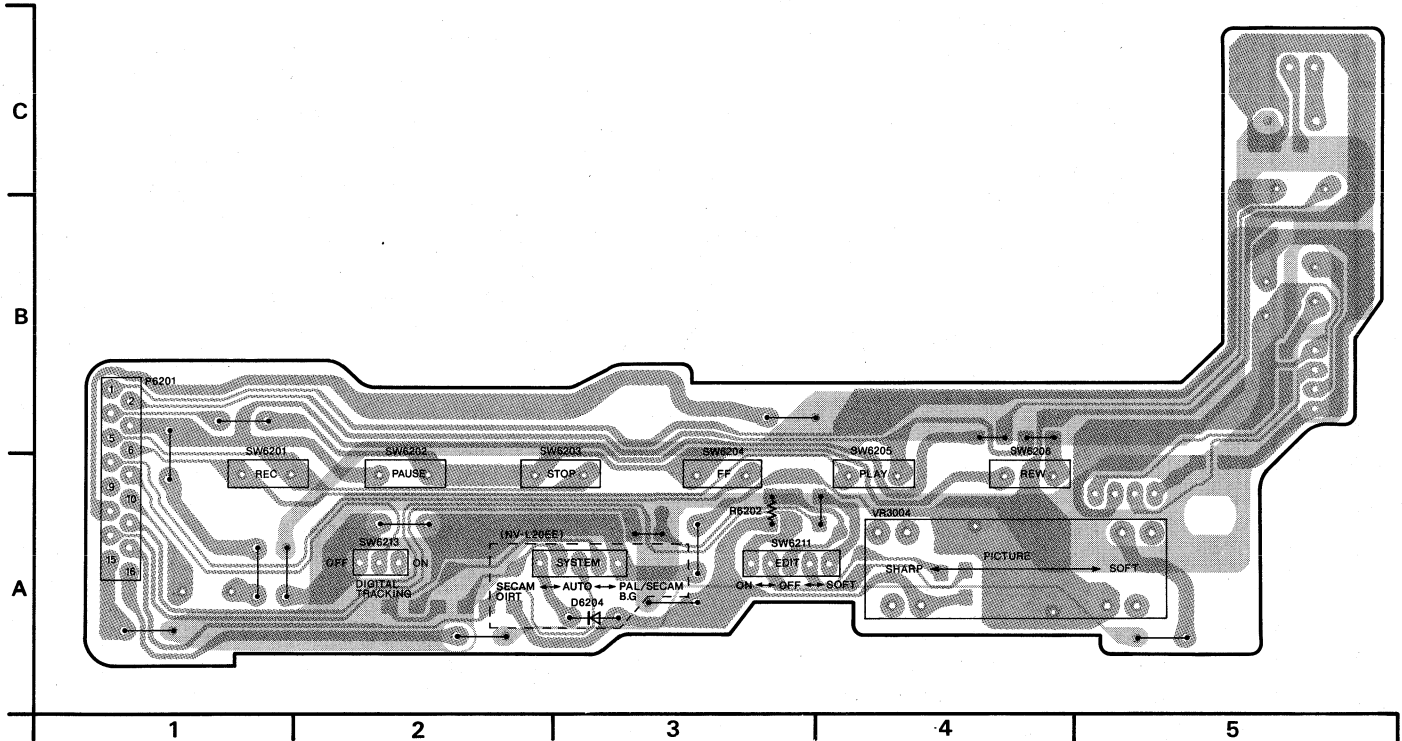
ADDRESS INFORMATION



3-19. OPERATION SCHEMATIC DIAGRAM



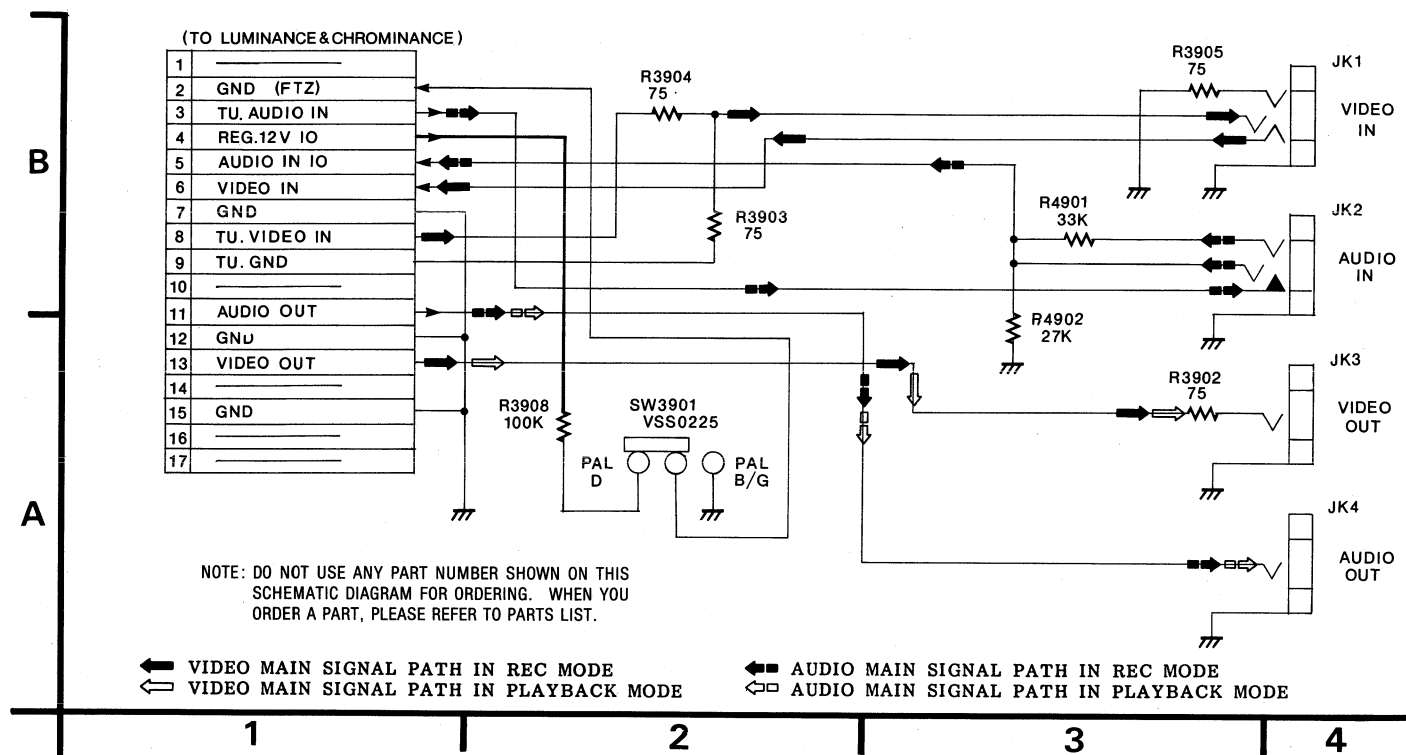
3-20. OPERATION C.B.A. (VEP06558B: NV-L20EO/EV)
(VEP06558E: NV-L20EE)



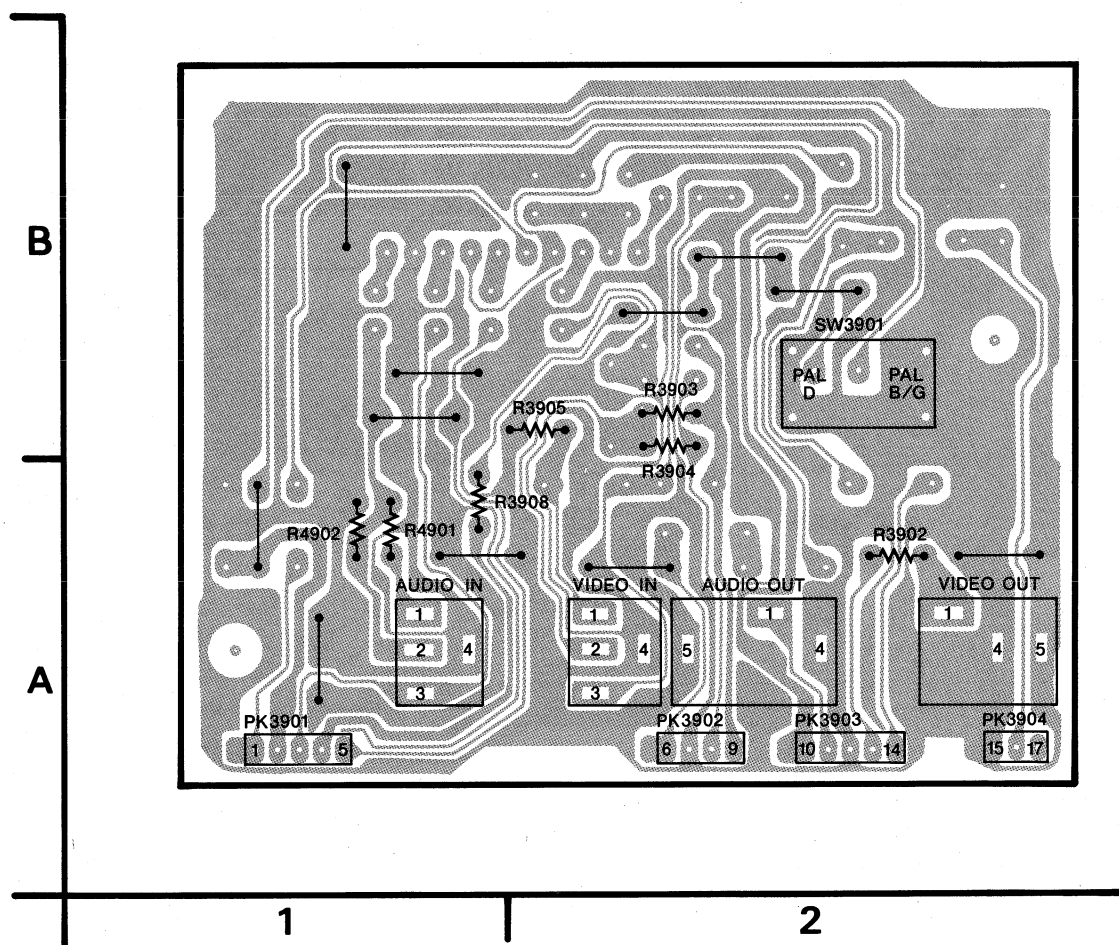
OPERATION C.B.A.	
Adjustment	
VR3004	A-4
Connector	
P6201	B-1

ADDRESS INFORMATION

3-21. INPUT/OUTPUT PACK SCHEMATIC DIAGRAM (NV-L20EE)



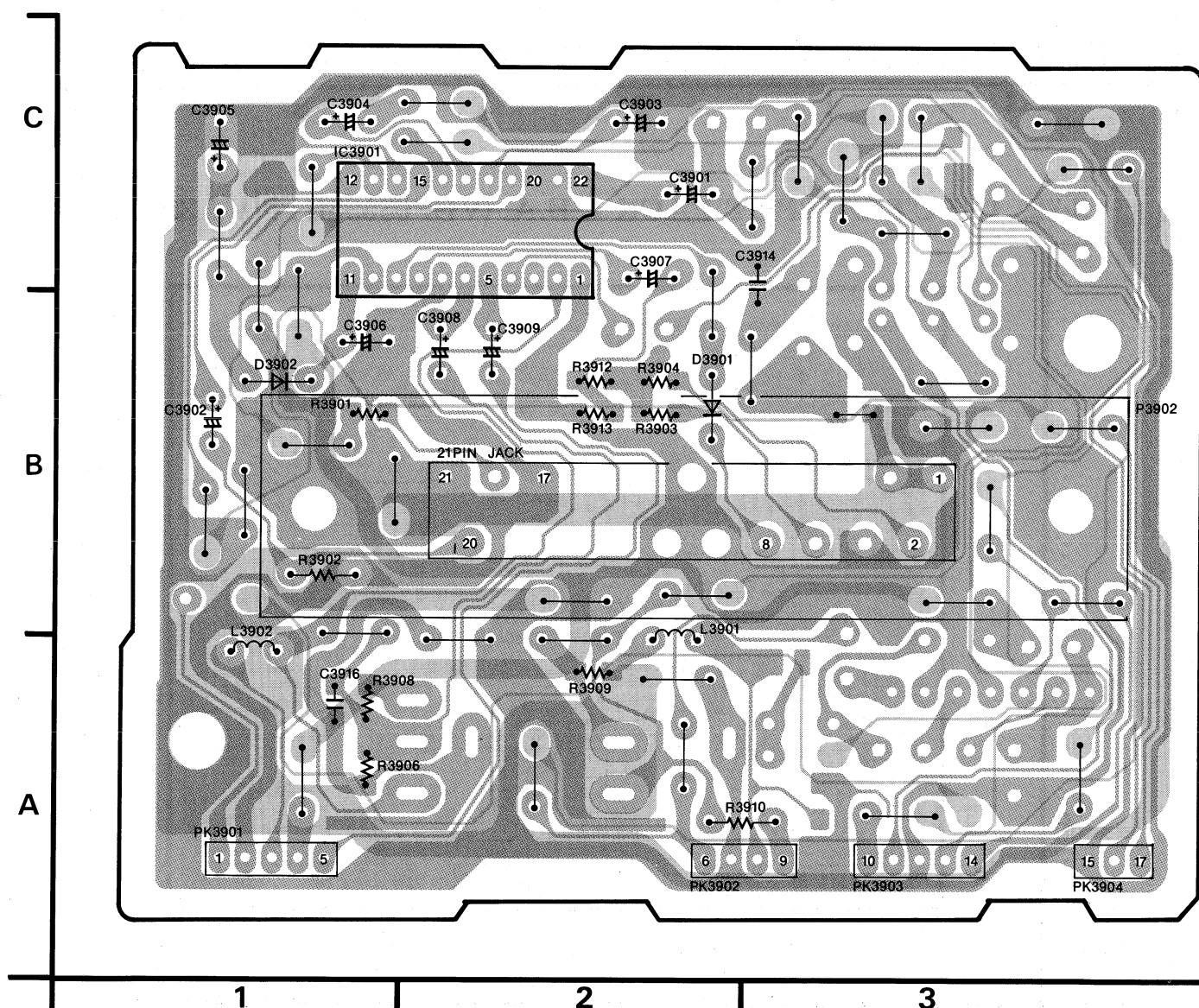
3-22. INPUT/OUTPUT PACK C.B.A. (VEP03593B: NV-L20EE)



3-23. INPUT/OUTPUT PACK C.B.A. (VEP03594C: NV-L20EO/EV)

I/O PACK C.B.A.	
Integrated Circuit	
IC3901	C-1
Connector	
P3902	B-3
PK3901	A-1
PK3902	A-2
PK3903	A-3
PK3904	A-4

ADDRESS INFORMATION



VIDEO MAIN SIGNAL PATH IN REC MODE
 VIDEO MAIN SIGNAL PATH IN PLAYBACK MODE
 AUDIO MAIN SIGNAL PATH IN REC MODE
 AUDIO MAIN SIGNAL PATH IN PLAYBACK MODE

(TO LUMINANCE & CHROMINANCE)

1	
2	GND (FTZ)
3	TU. A. IN
4	REG12V IO
5	AI. IN. IO

P3902
AV 21PIN JACK

1	AUDIO OUT CH2
2	AUDIO IN CH2
3	AUDIO OUT CH1
4	AUDIO GND
5	
6	AUDIO IN CH1
7	
8	P.B +12V
9	
10	
11	
12	
13	
14	
15	
16	
17	GND
18	
19	VIDEO OUT
20	VIDEO IN
21	GND

(TO LUMINANCE & CHROMINANCE)

6	VIDEO IN
7	GND
8	TU. V. IN
9	TU GND

(TO LUMINANCE & CHROMINANCE)

10	
11	A. OUT
12	GND
13	VIDEO OUT
14	EE (H)

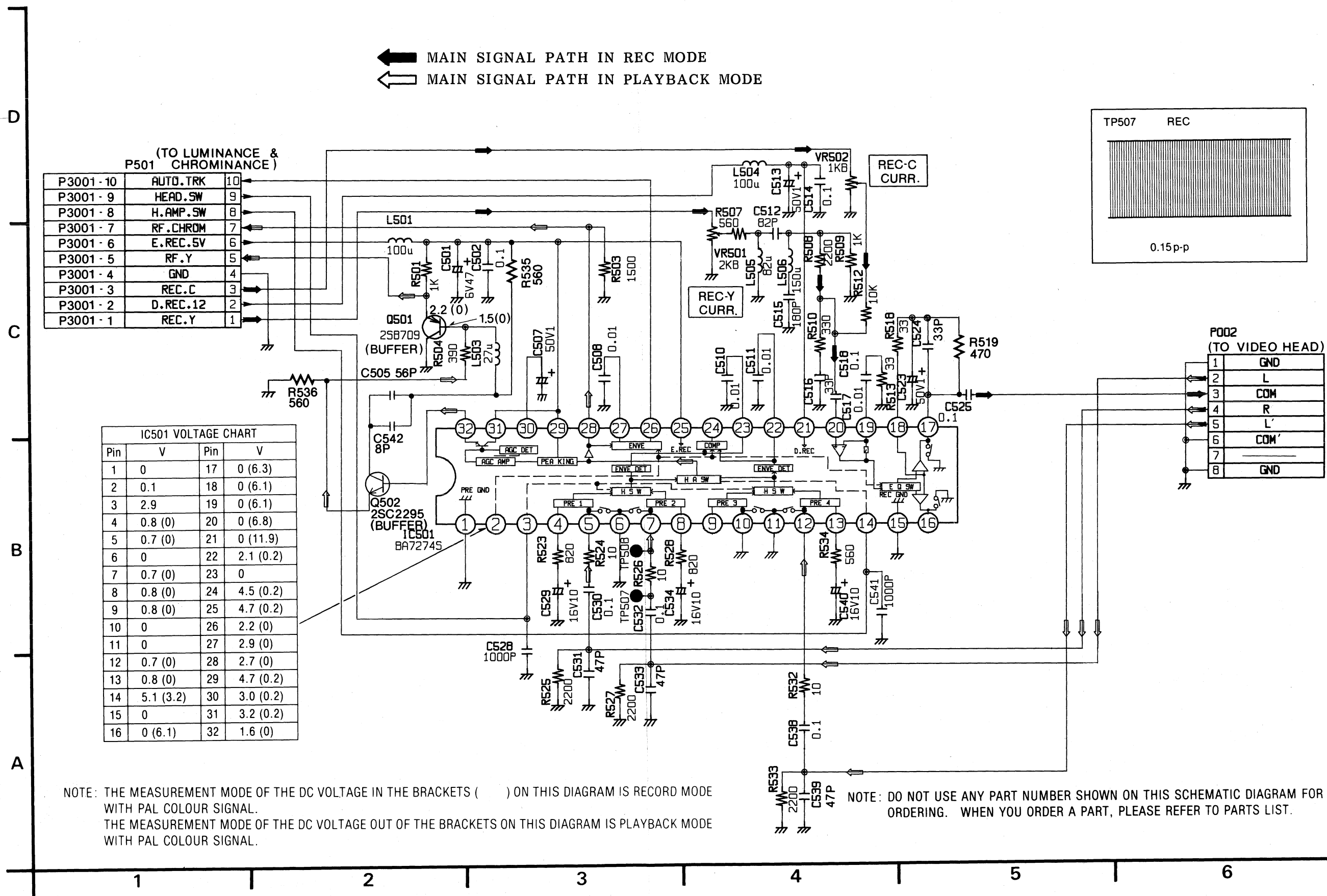
(TO LUMINANCE & CHROMINANCE)

15	GND
16	C/T (L)
17	TEST (H)

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS () ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL.
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL.

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

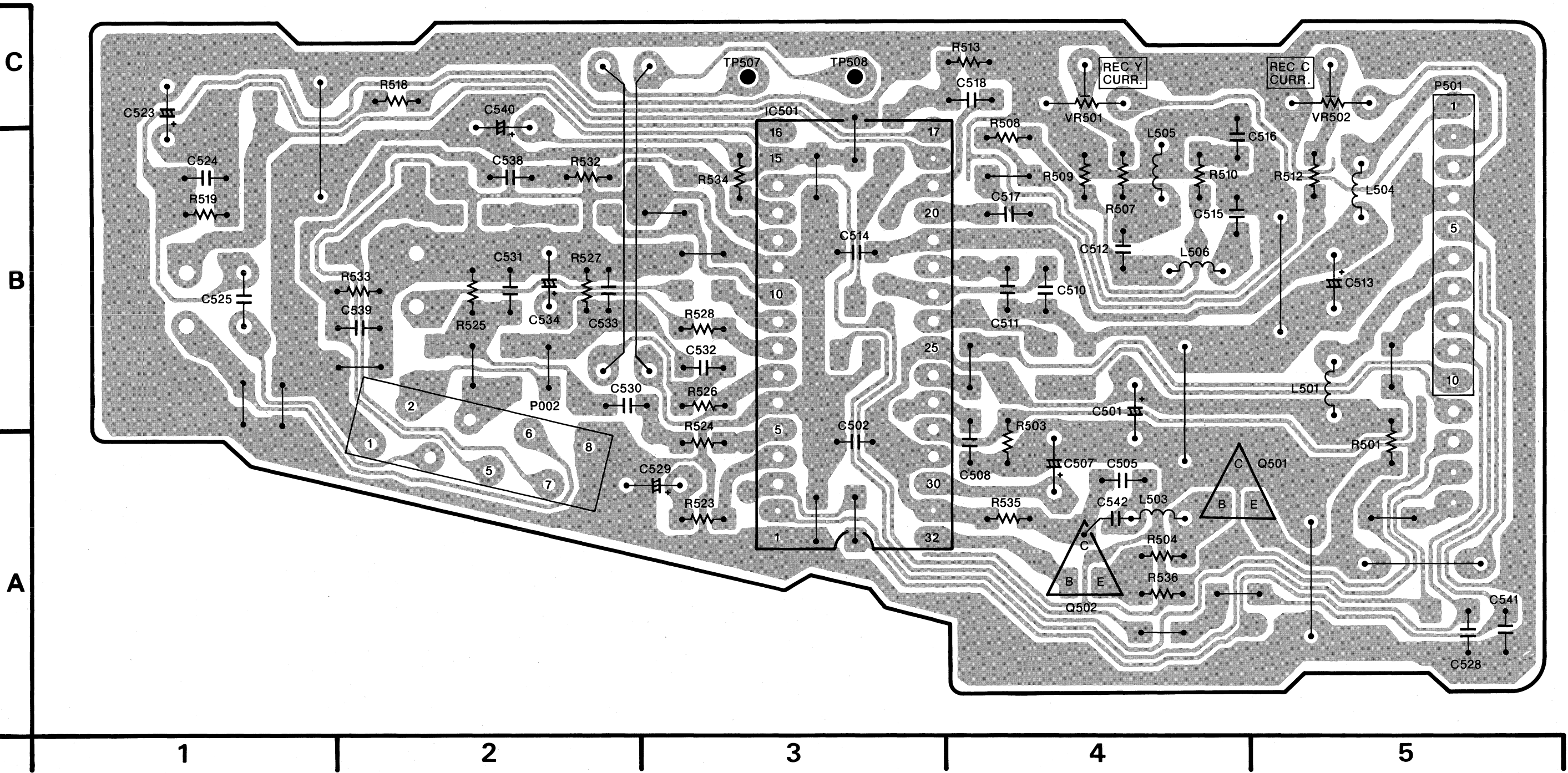
3-25. HEAD AMP SCHEMATIC DIAGRAM



3-26. HEAD AMP C.B.A. (VEP05137B)

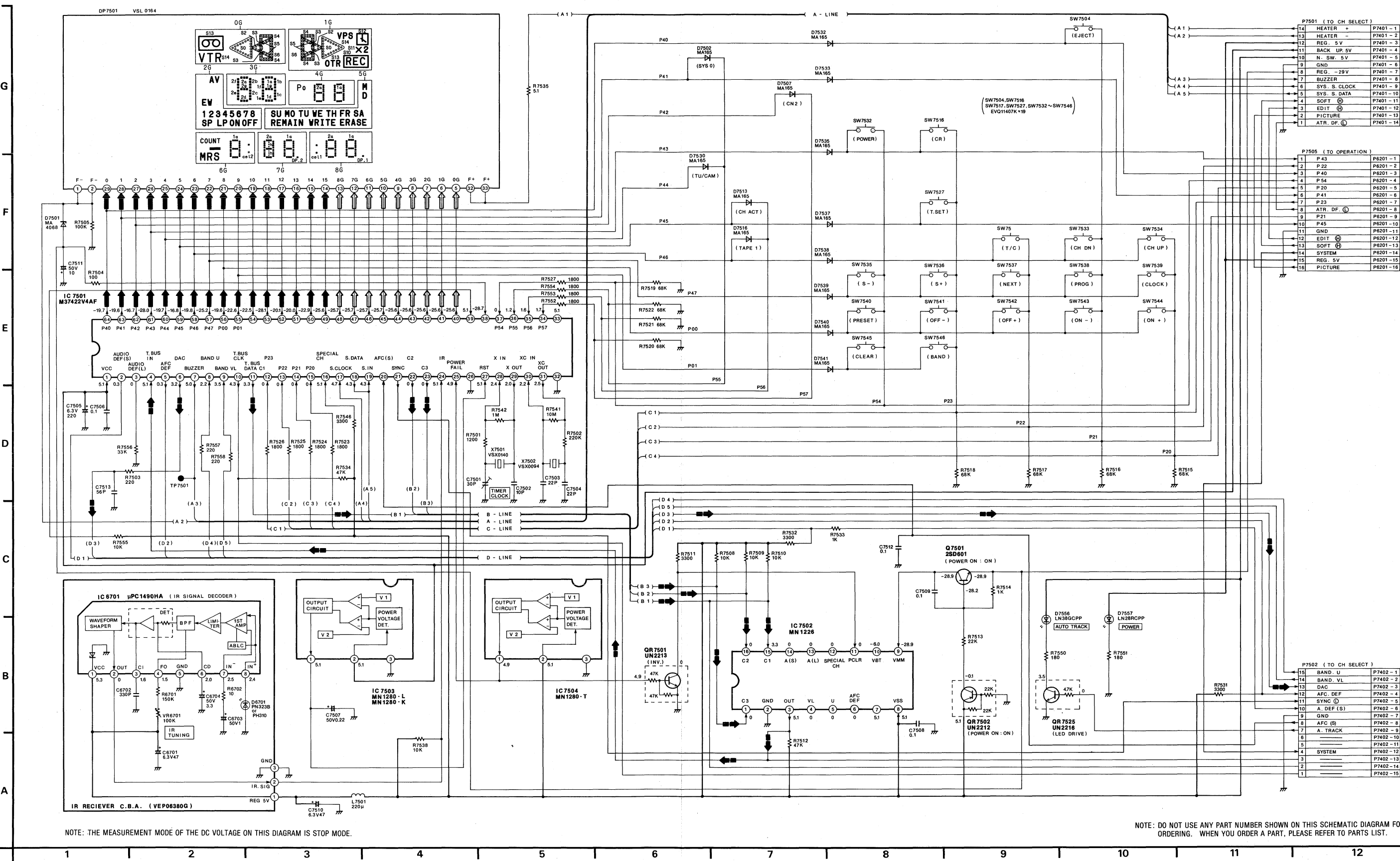
HEAD AMP C.B.A.	
Transistor	
Q501	A-5
Q502	A-4
Integrated Circuit	
IC501	C-3
Test Point	
TP507	C-3
TP508	C-3
Adjustment	
VR501	C-4
VR502	C-5
Connector	
P002	B-2
P501	C-5

ADDRESS INFORMATION



3-29. TIMER SCHEMATIC DIAGRAM (NV-L20EE)

← SEGMENT CONTROL SIGNAL ← GRID CONTROL SIGNAL ← TUNE CONTROL SIGNAL

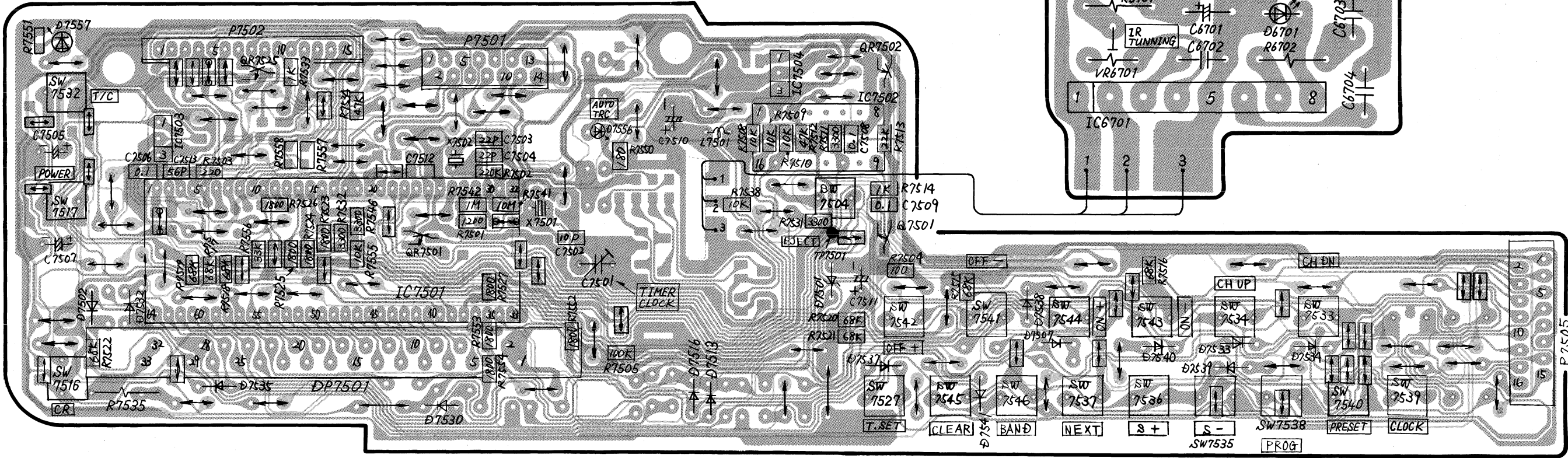


3-30. TIMER C.B.A. (VEP07544D: NV-L20EE)

TIMER C.B.A.			
Transistor		Test Point	
Q7501	B-4	TP7501	B-4
Transistor & Resistor		Adjustment	
QR7501	A-2	C7501	A-3
QR7502	B-4	VR6701	B-5
QR7525	B-2	Connector	
Integrated Circuit		P7501	B-2
IC6701	B-5	P7502	B-2
IC7501	B-2	P7505	A-6
IC7502	B-4		
IC7503	B-1		
IC7504	B-2		

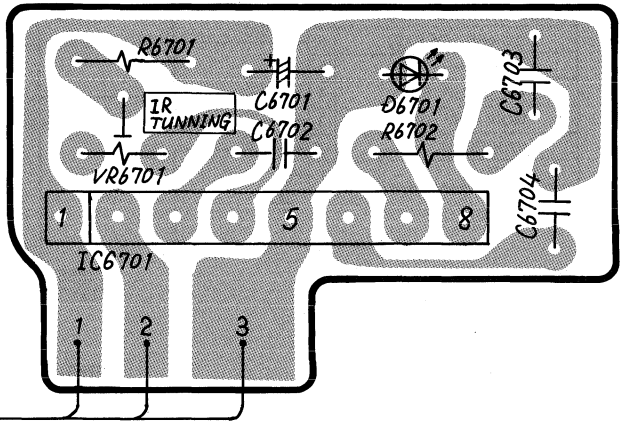
ADDRESS INFORMATION

TIMER C.B.A. (VEP07544D: NV-L20EE)

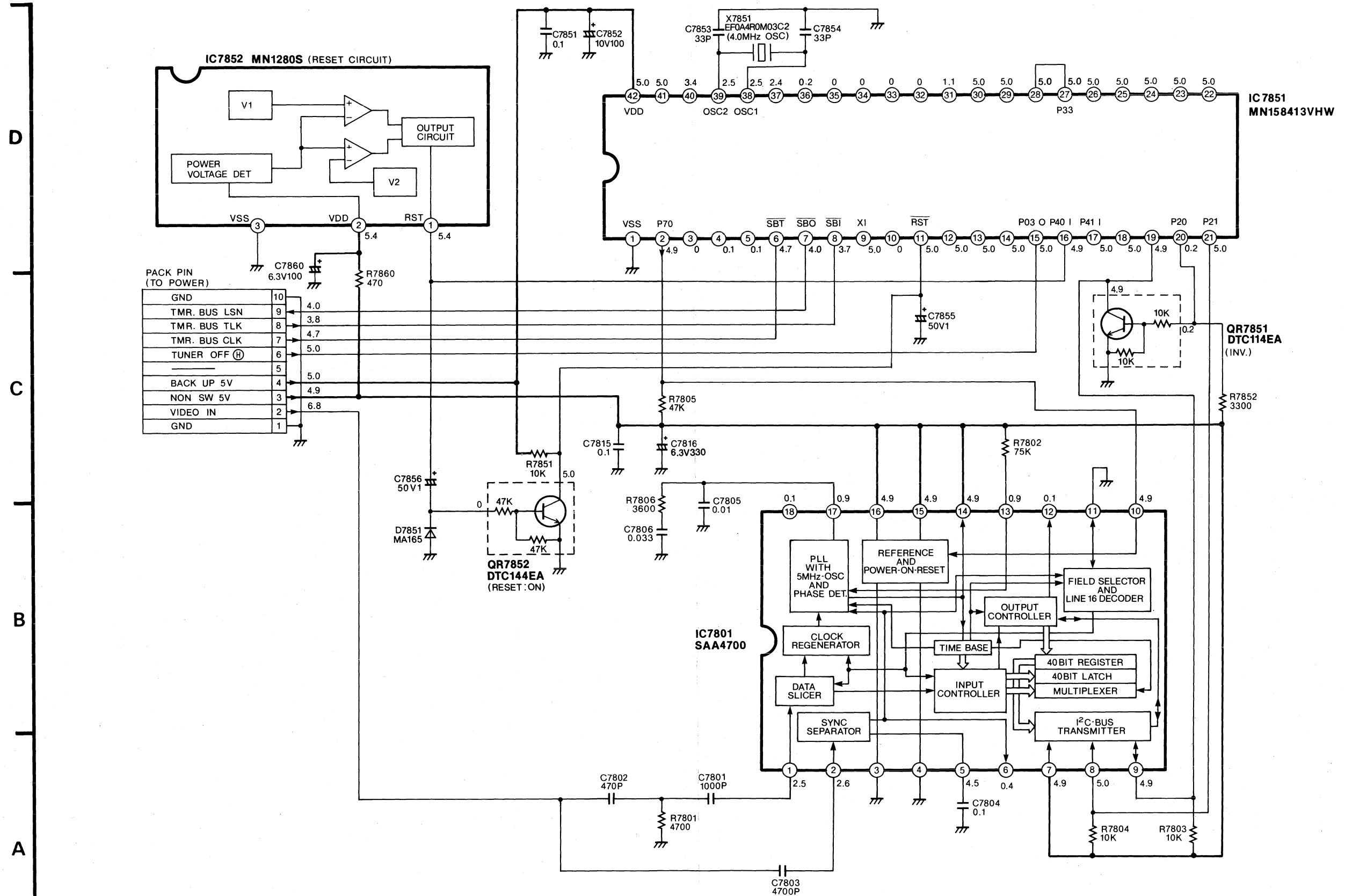


NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS CIRCUIT BOARD FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

IR RECEIVER C.B.A. (VEP06380G)



3-31. VPS PACK SCHEMATIC DIAGRAM



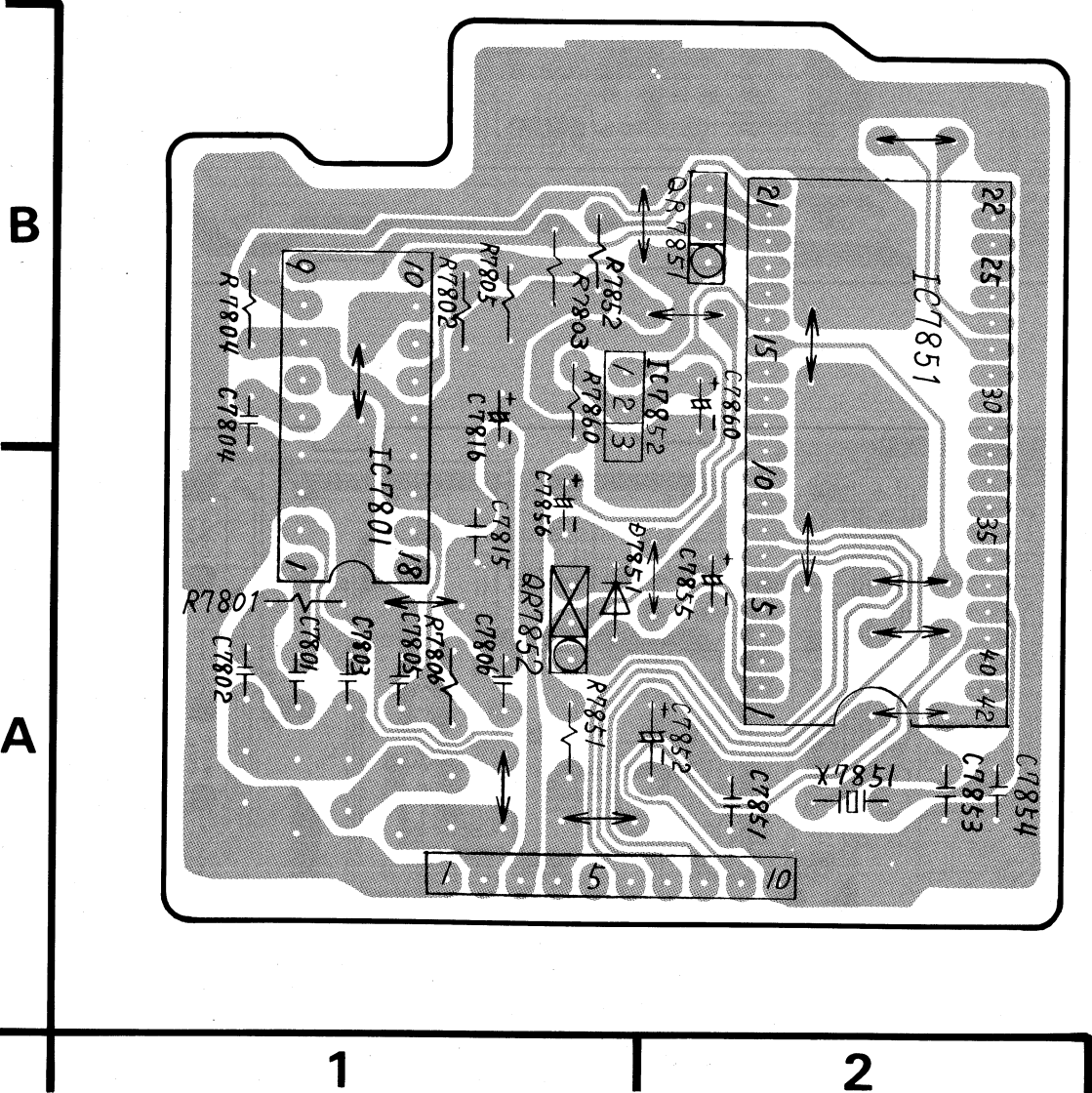
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

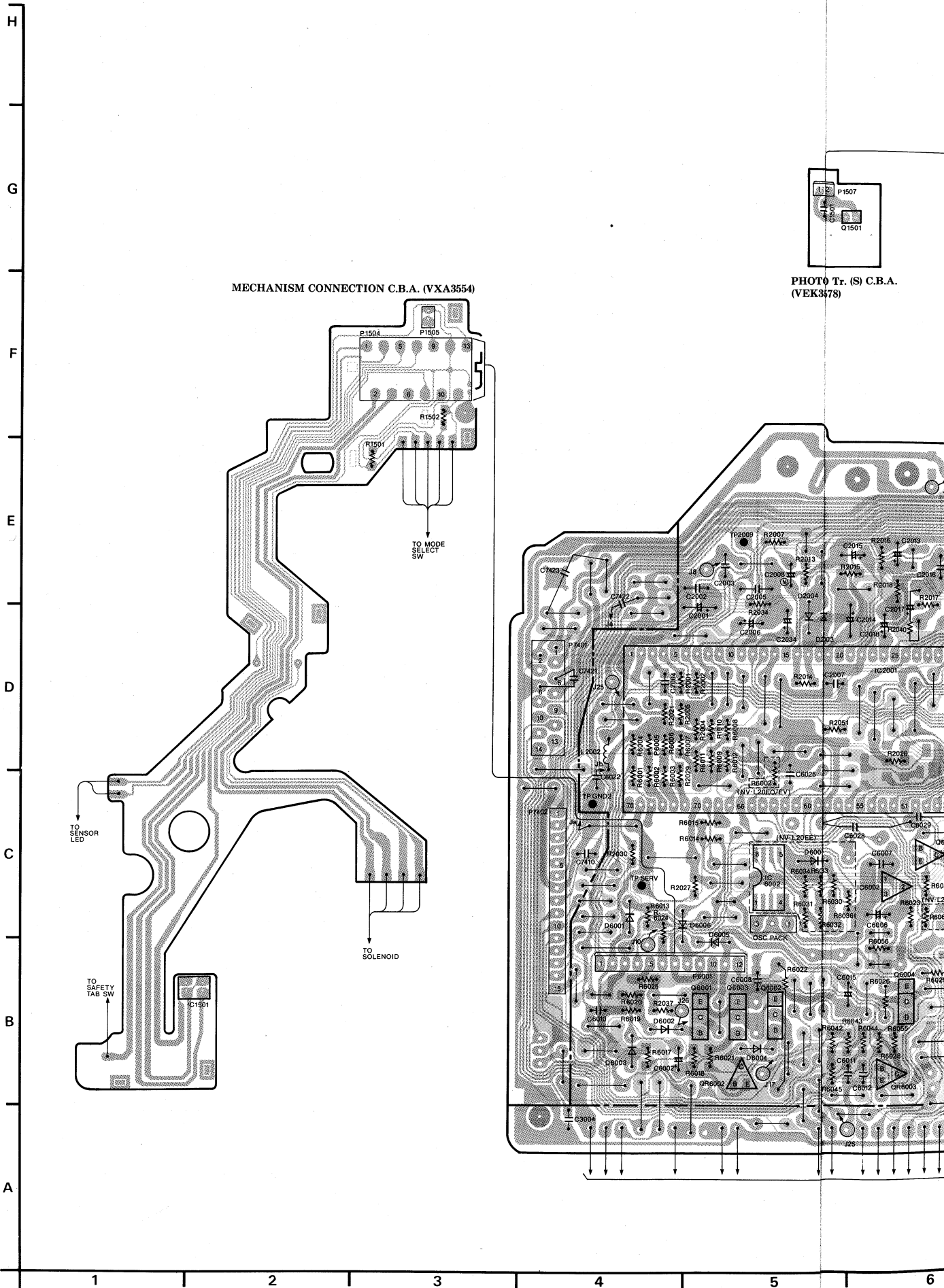
3-32. VPS PACK C.B.A. (VEP07538B: NV-L20EV)
(VW-VPS5: NV-L20EO; OPTION)

VPS PACK C.B.A.	
Transistor & Resistor	
QR7851	B-2
QR7852	A-1
Integrated Circuit	
IC7801	A-1
IC7851	B-2
IC7852	B-2

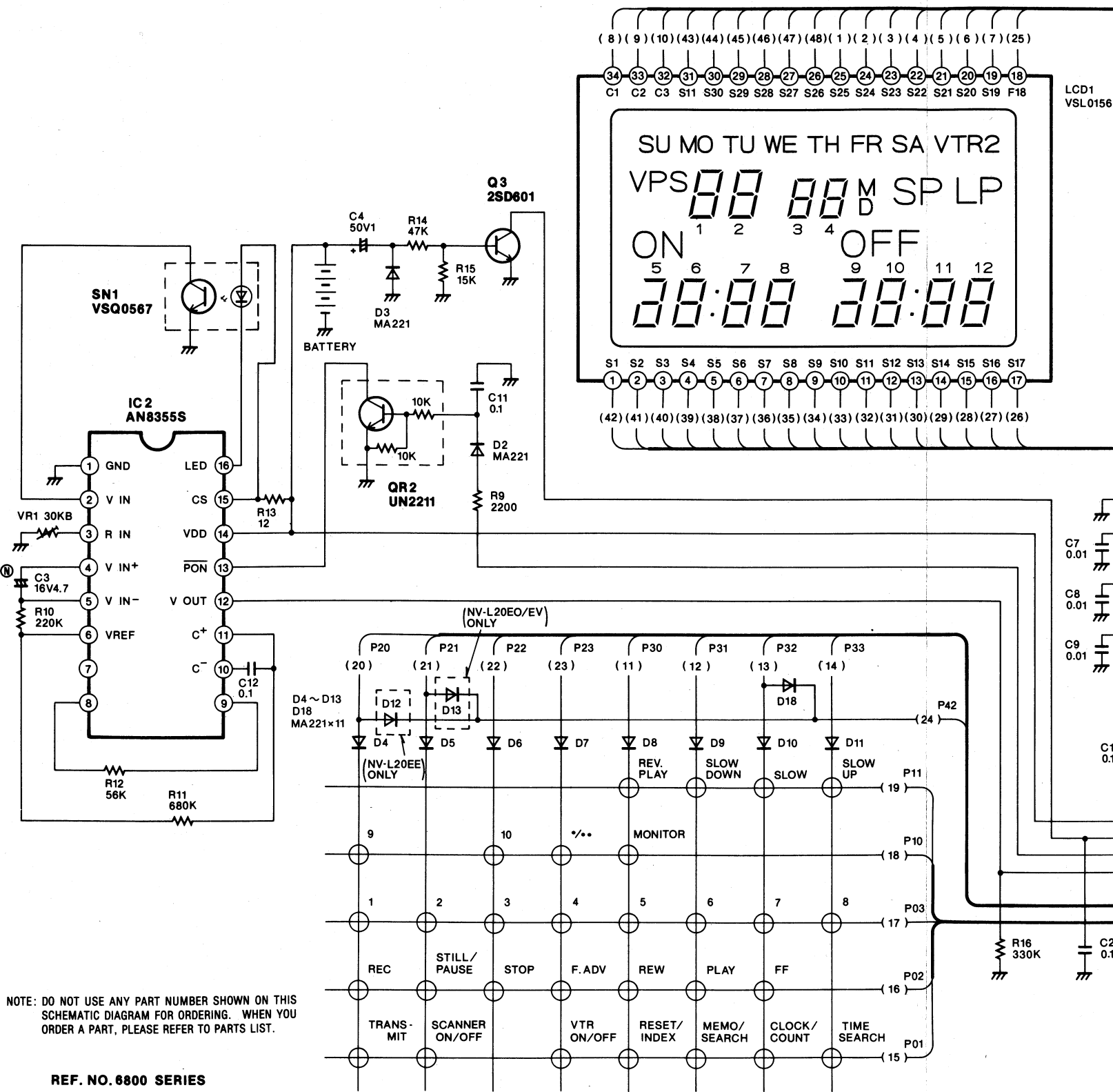
ADDRESS INFORMATION



3-33. MAIN C.B.A. (VEP03588AK: NV-L20EO) (VEP03588AH: NV-L20EV) (V

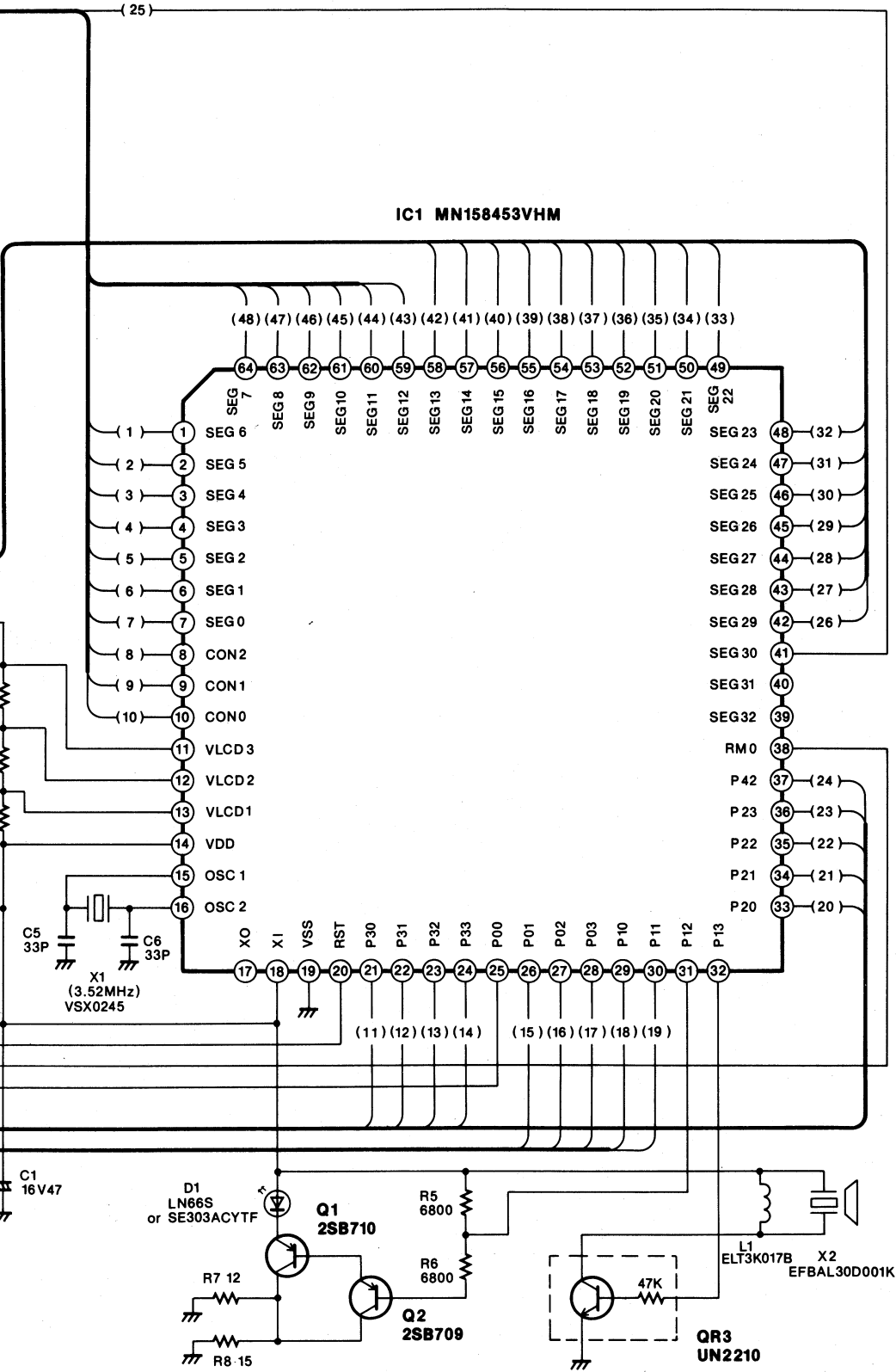


3-34. REMOTE CONTROLLER (BUILD IN DIGITAL SCANNER) SCHEMATIC DIAGRAM
— UNIT NO.: VEQ0930 (NV-L20EO/EV), VEQ0932 (NV-L20EE) —

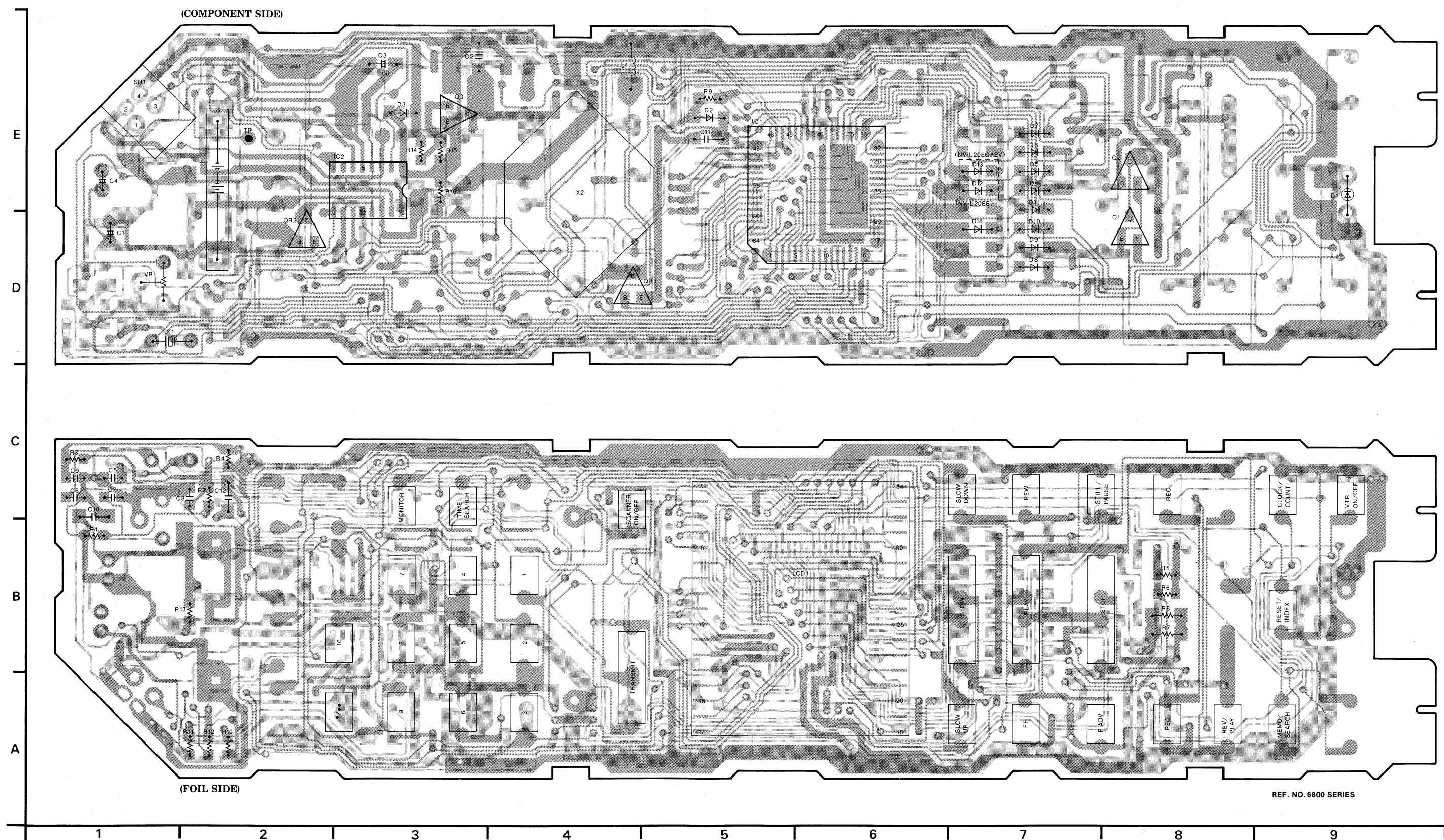


Back Page:
VPS PACK & MAIN C.B.A. Section

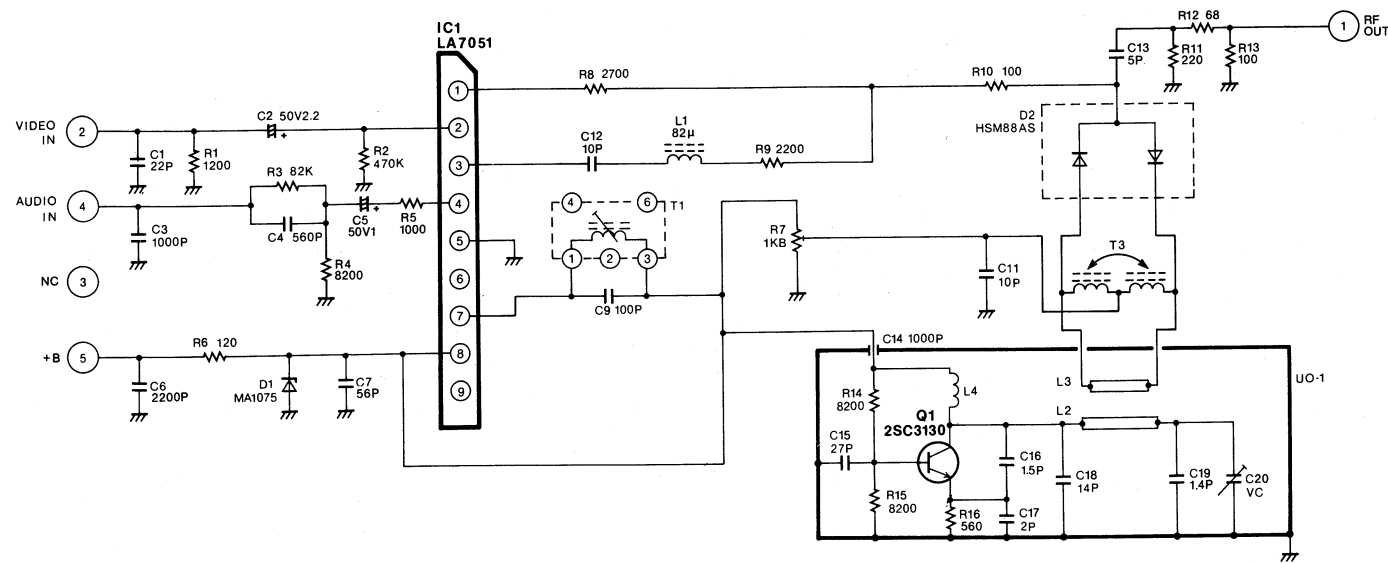
3-35. REMOT



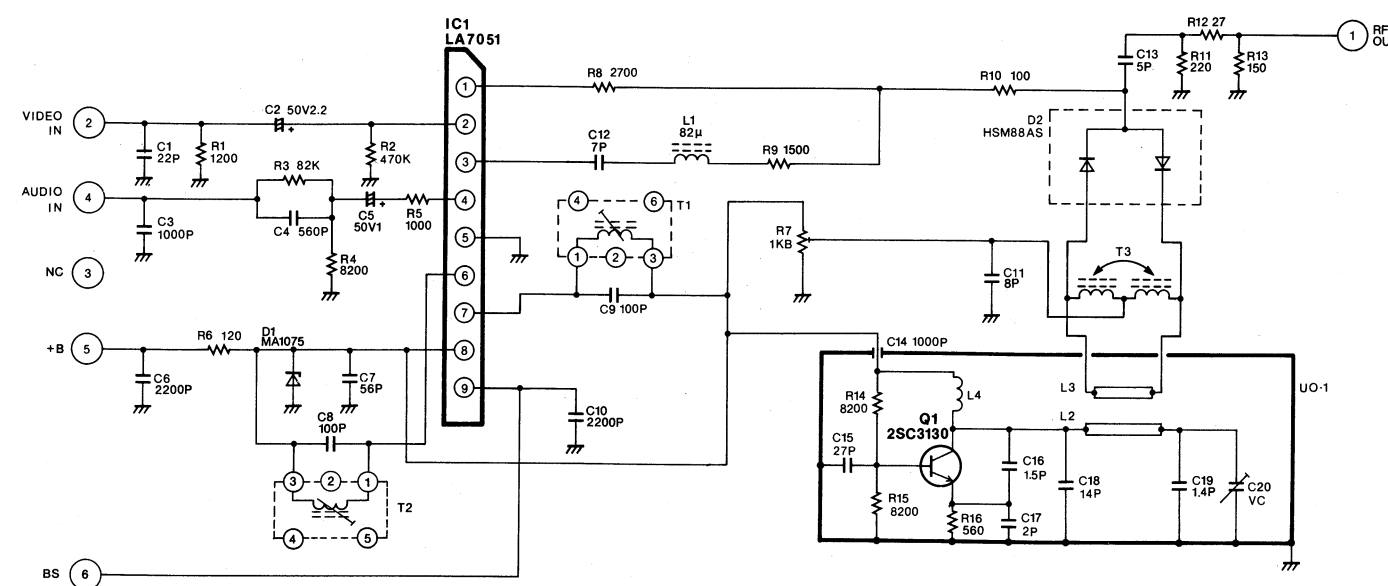
3-35. REMOTE CONTROLLER (BUILD IN DIGITAL SCANNER) C.B.A. (VEP66079G: NV-L20EO/EV) (VEP66079F: NV-L20EE)



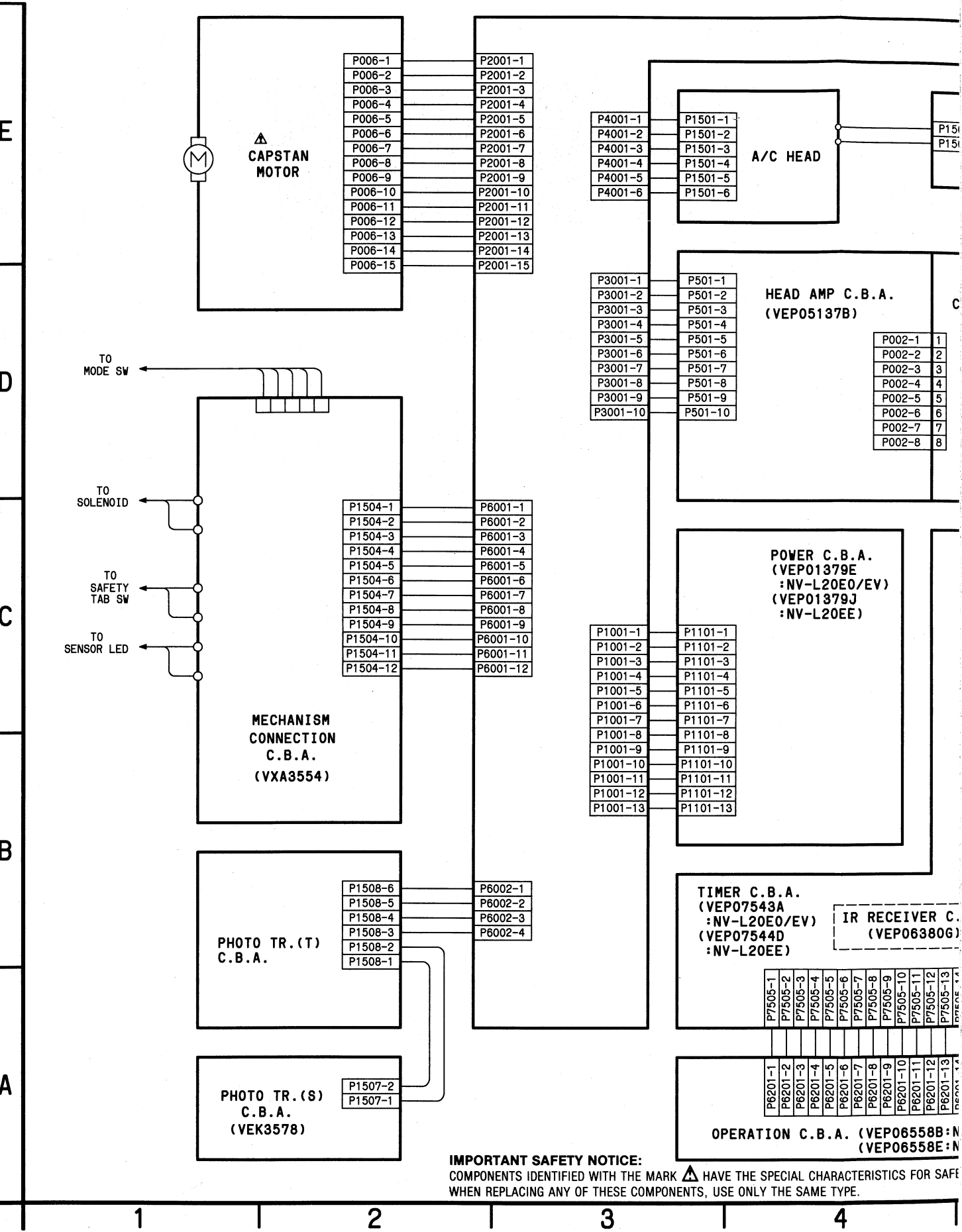
3-36. RF CONVERTER SCHEMATIC DIAGRAM
(ENC17954: NV-L20EO/EV)



3-37. RF CONVERTER SCHEMATIC DIAGRAM
(ENC17959: NV-L20EE)

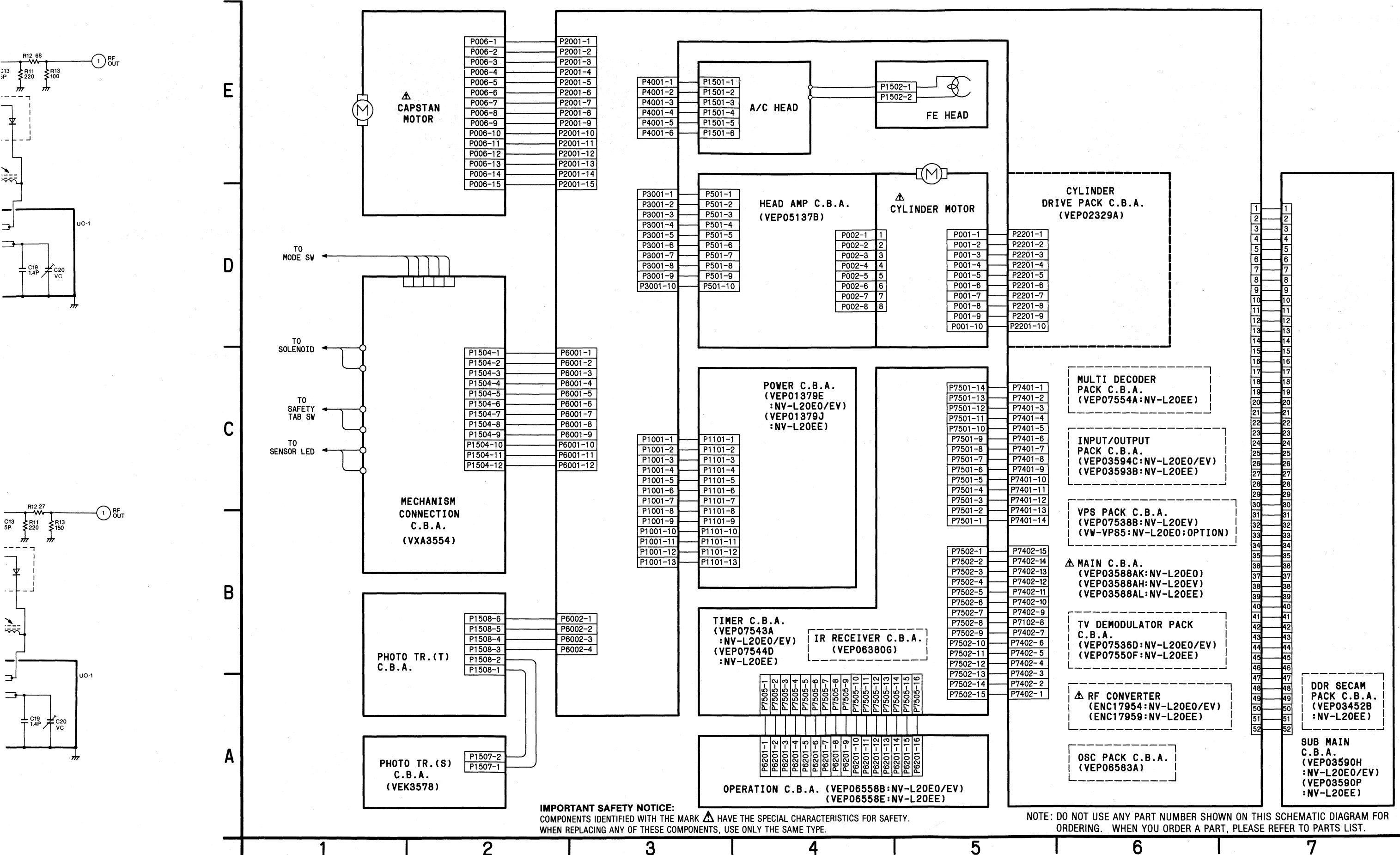


3-38. INTERCONNECTION SCHEMATIC DIAGRAM



IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

3-38. INTERCONNECTION SCHEMATIC DIAGRAM



GENERAL CIRCUIT PARTS

AN3495K
M51366SP

BA7274S
BA7766AS

AN5043
MN1226
μPC1167C2
MN12261

2SB709
2SB710
2SC2295
2SD1328
2SD601
2SD602

MN1280L
MN1280T
MN1280S

2SB643
2SD1330
2SD637
2SD638
2SD973
2SC2206
2SC2377

2SD893
2SC1047

DTC363EK

UN2211
DTC114EK

UN2212
DTC124EK

UN2213
DTC144EK

DTC144EA
UN1213

INPUT/OUTPUT PACK

LA7150

POWER & POWER SUPPLY Section

STRD1816

STK5392

MULTI DECODER PACK

μPD4066BC

LUMINANCE & CHROMINANCE Section

UN2111
DTA114EK

SUB MAIN

VEFH03D

VEFH04F

BA7004

MSM6965-3RS

BA7025L

SERVO & SYSTEM CONTROL Section

MN6740VCTK

BA6435S

AN3814K

MN12821R

2SD1273

2SD1676

UN2119
DTA113ZK

TV DEMODULATOR PACK

AN5421N

MN4066BS

TIMER

M37422V4AF
MN187125VHP

μPC1490HA

UN2216
DTC143TK

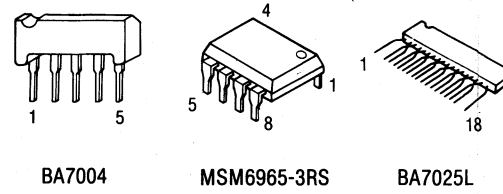
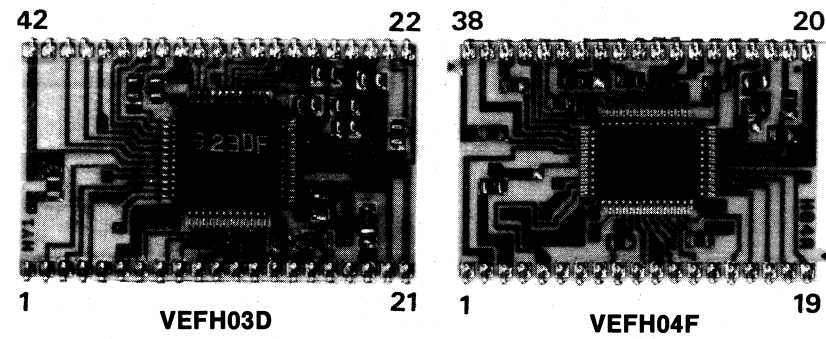
VPS PACK

MN158413VHW

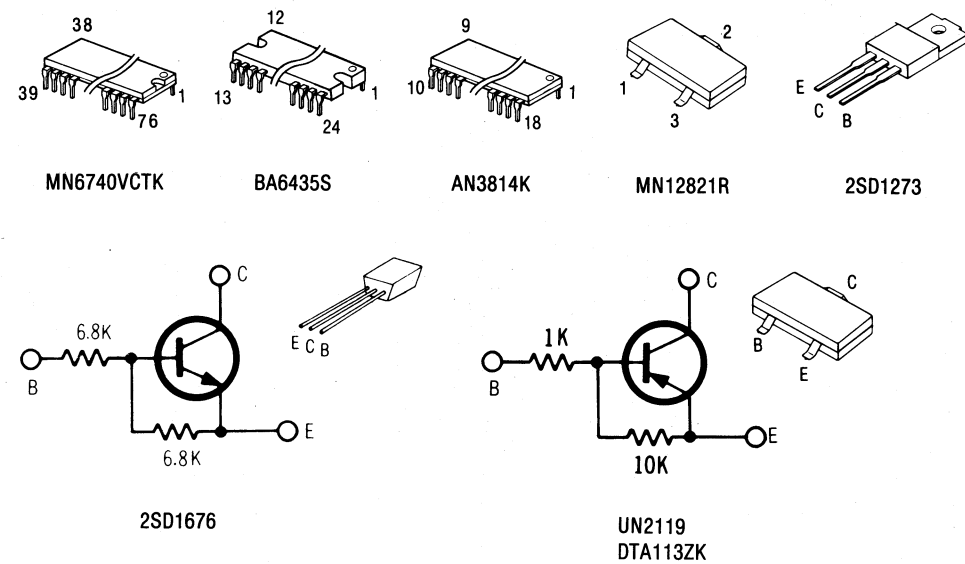
SAA4700

DTC114EA
UN1211

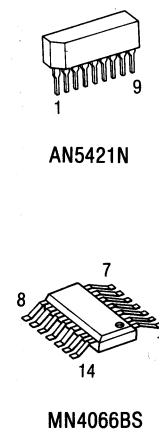
SUB MAIN



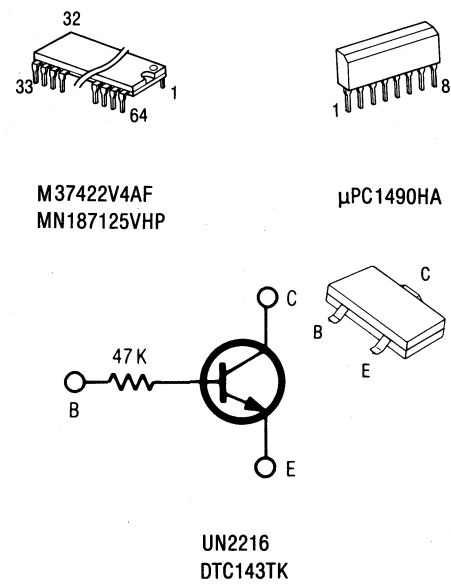
SERVO & SYSTEM CONTROL Section



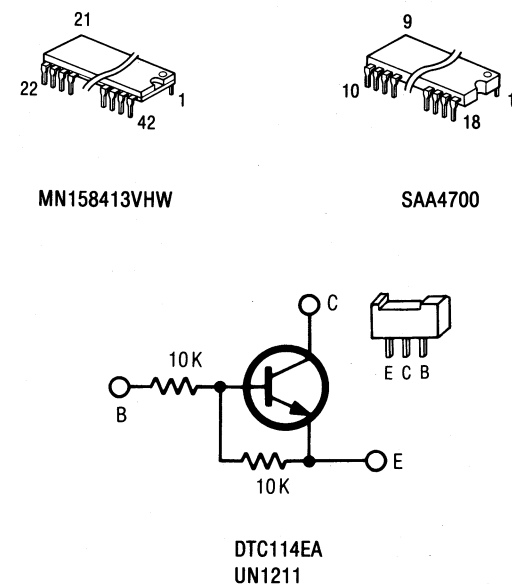
TV DEMODULATOR PACK



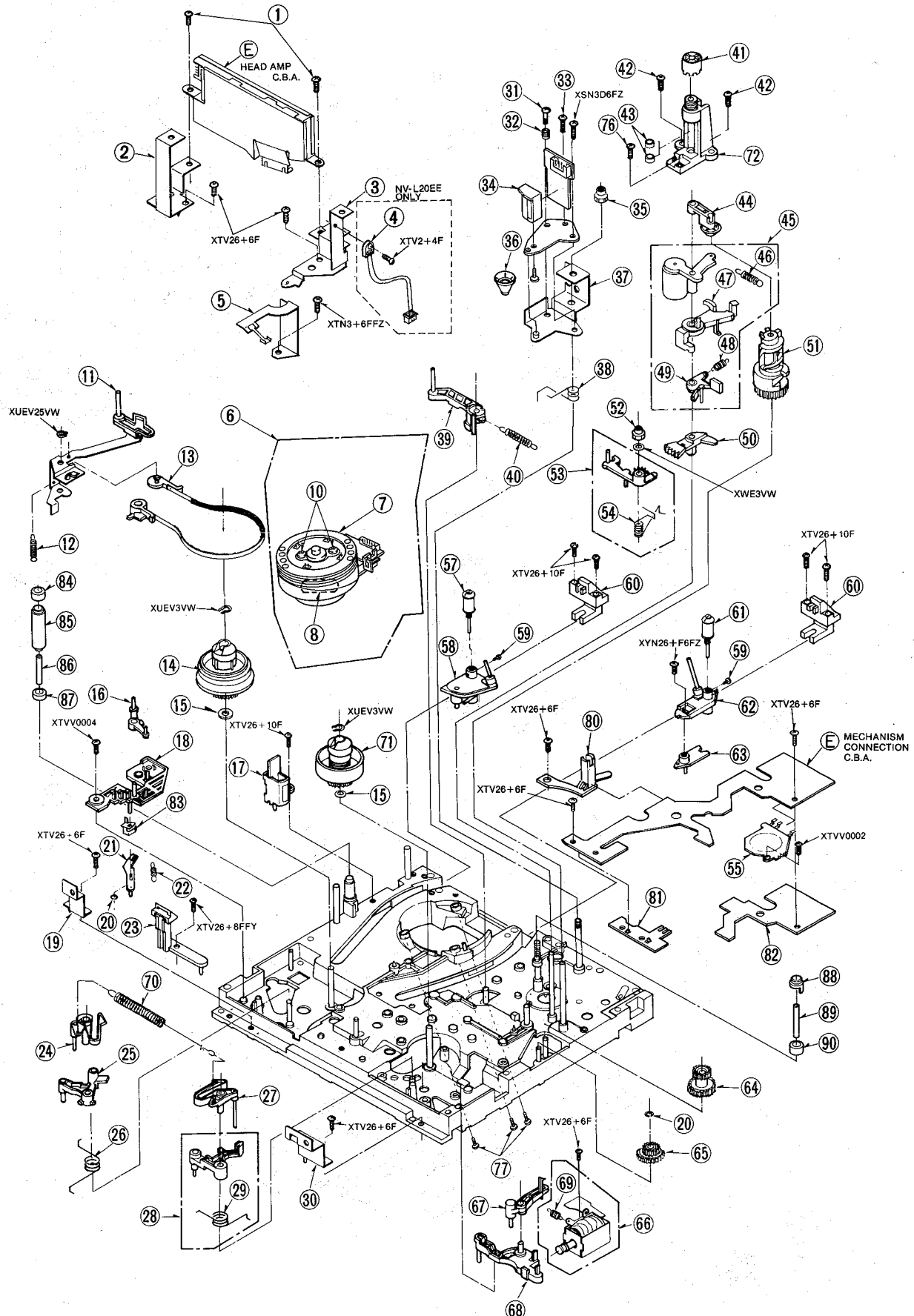
TIMER



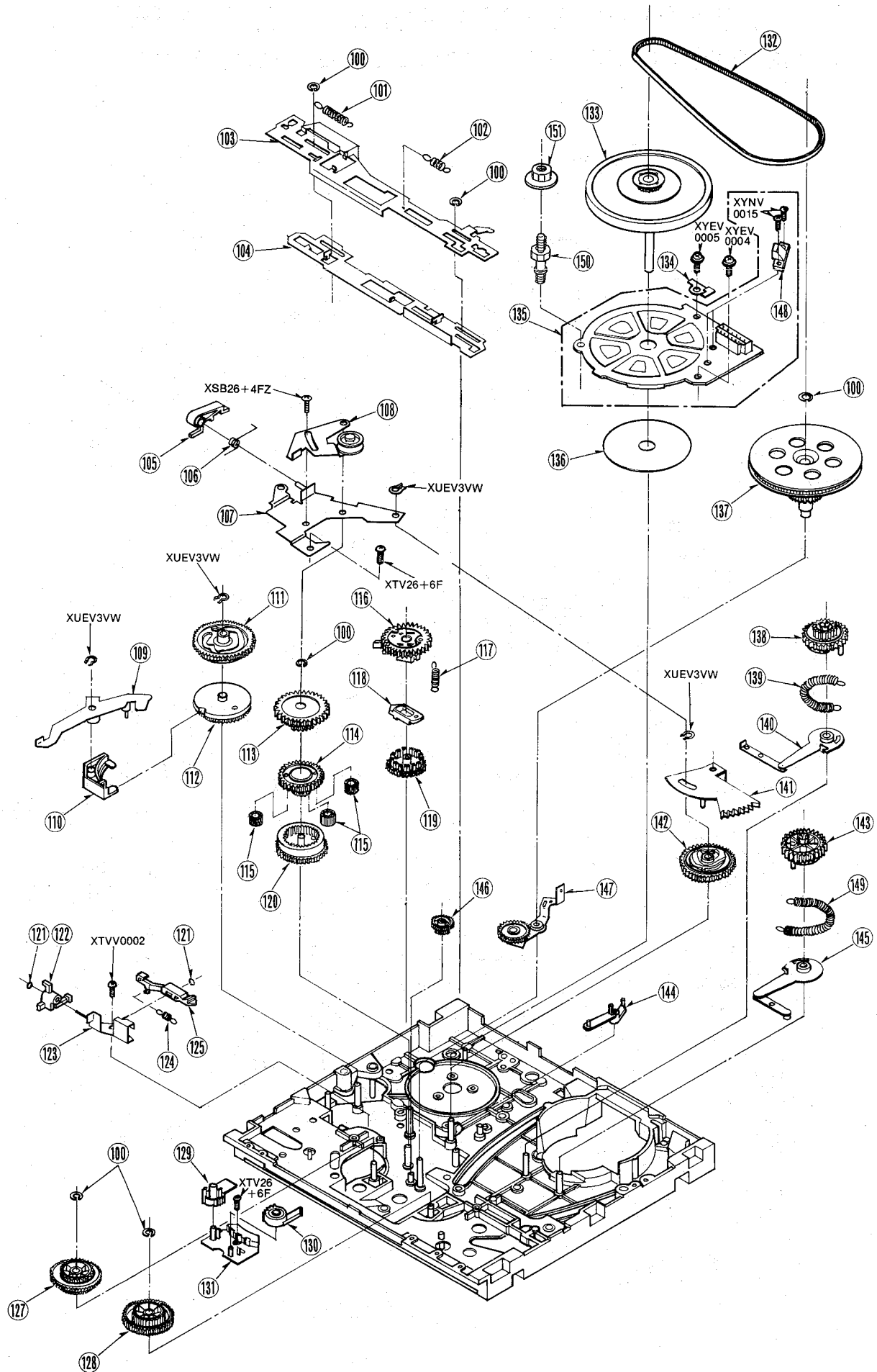
VPS PACK



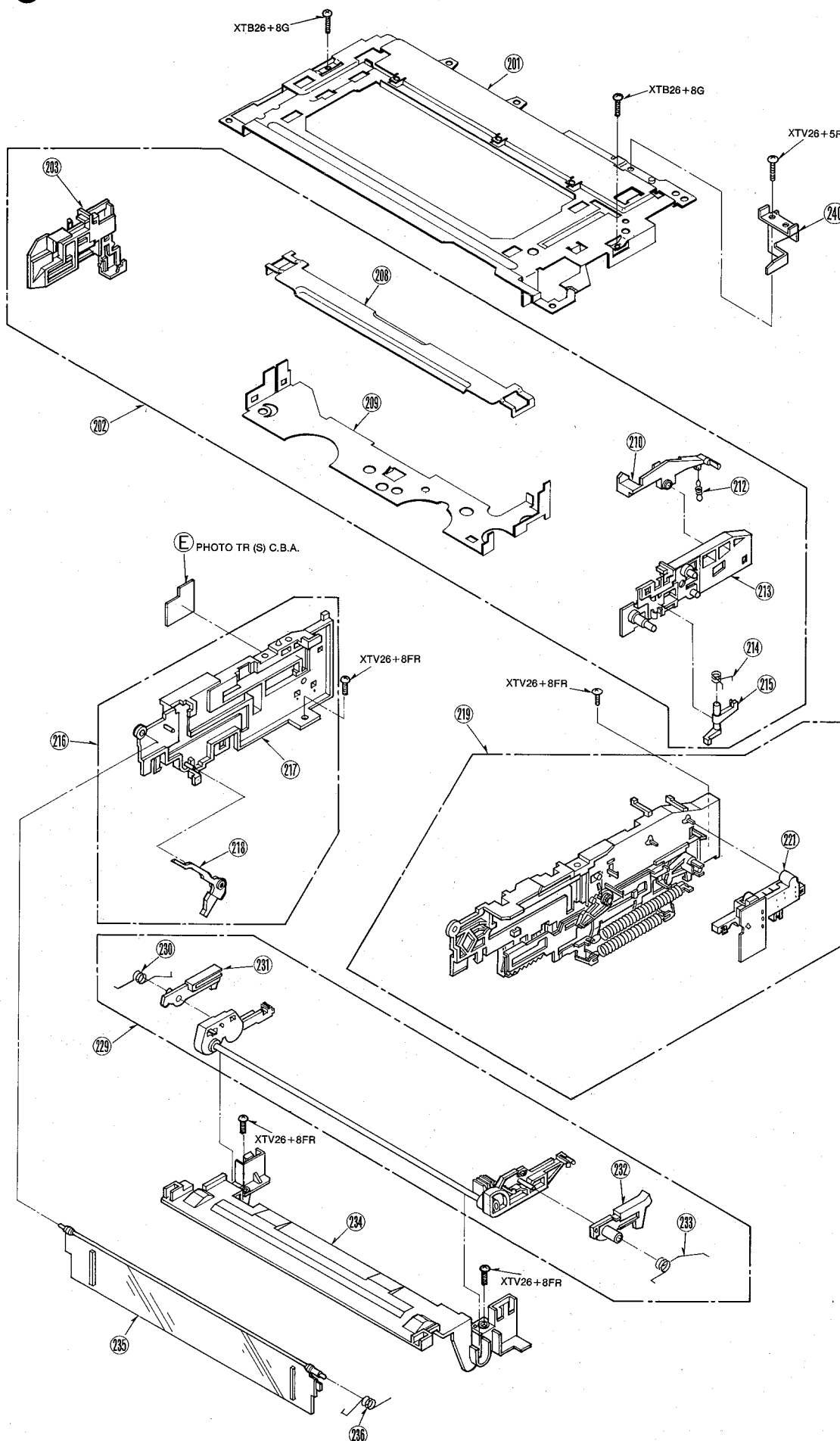
4-1. EXPLODED VIEW ❶ CHASSIS PARTS SECTION (1)



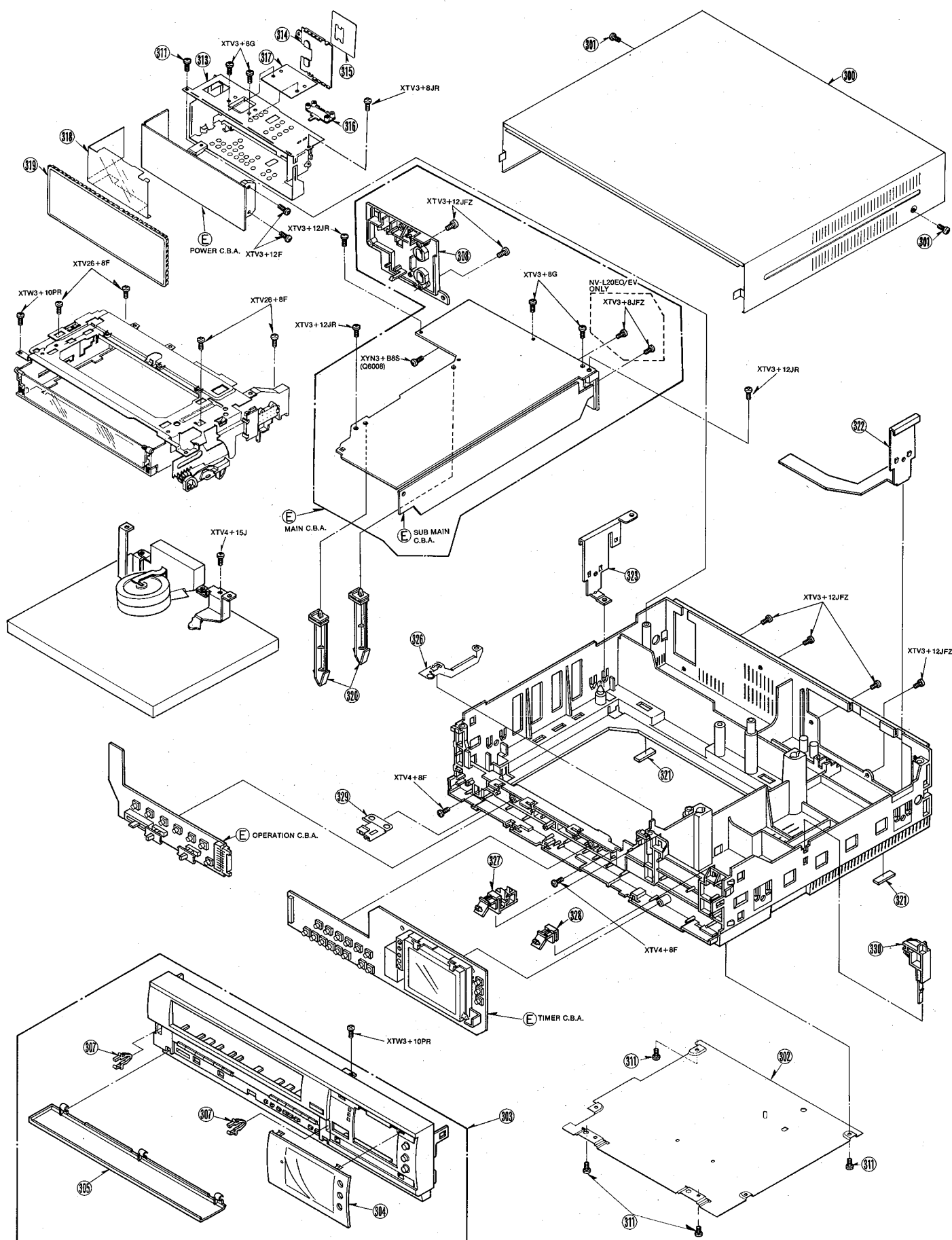
2 CHASSIS PARTS SECTION (2)



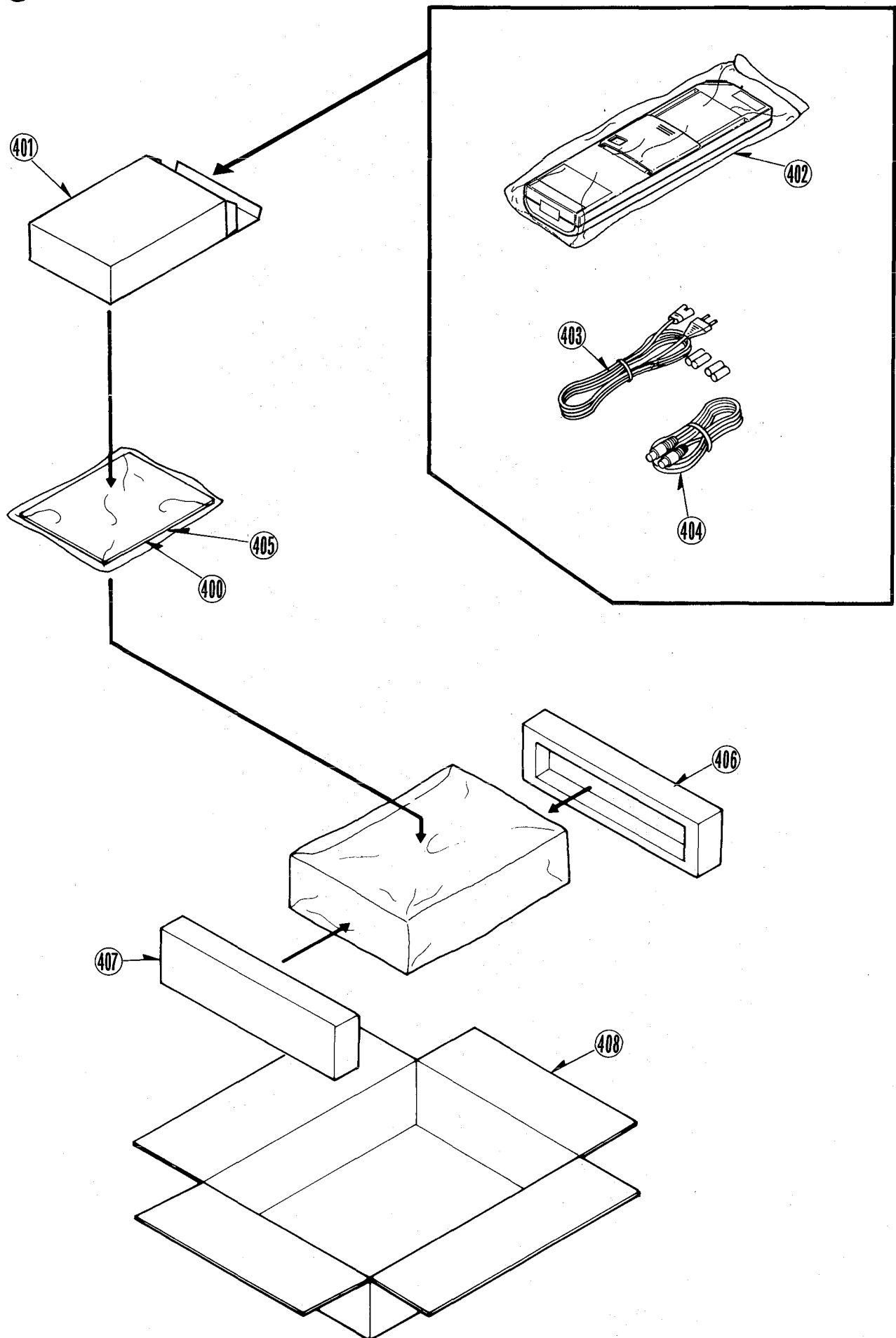
③ CASSETTE UP MECHANISM SECTION



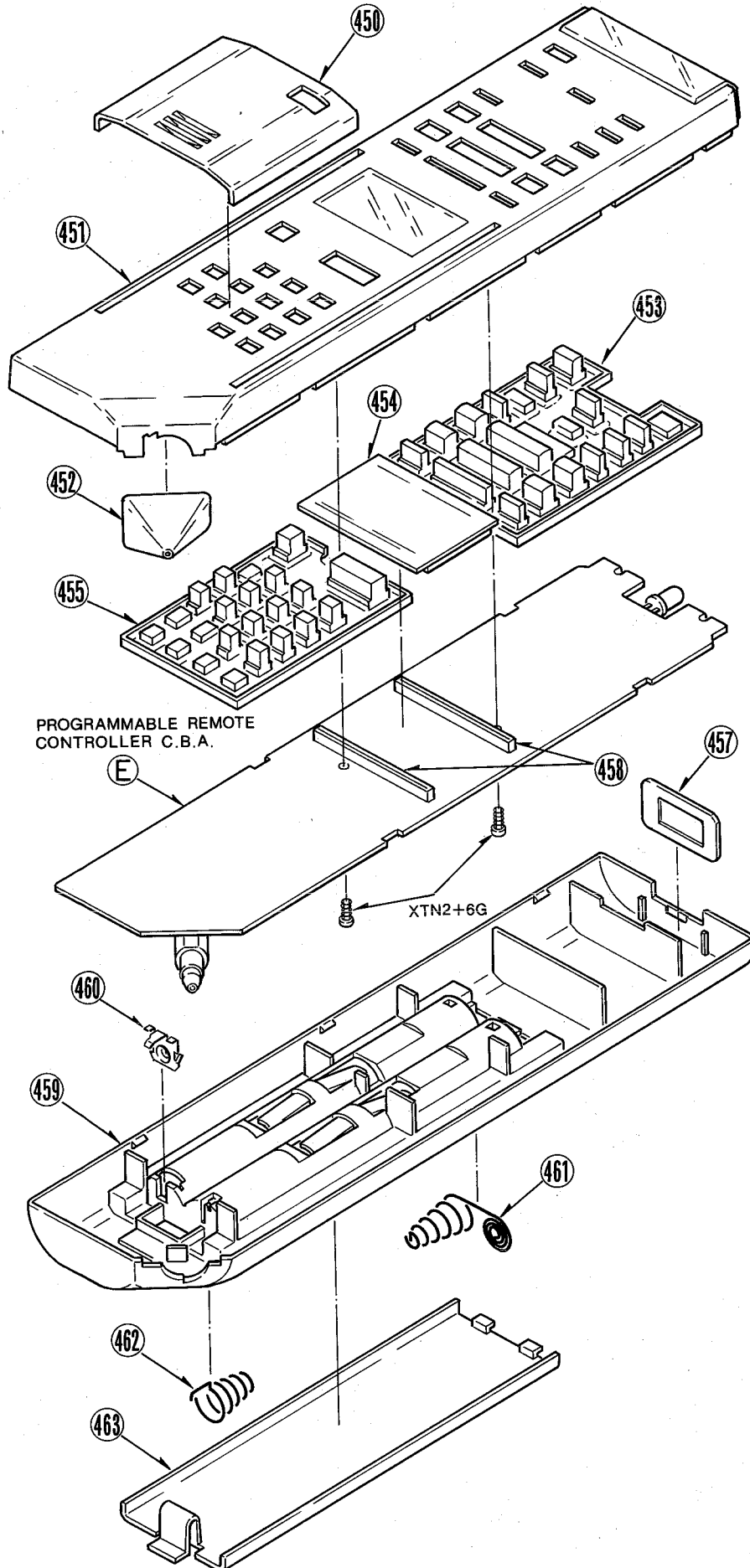
4 CASING PARTS SECTION



5 PACKING PARTS SECTION



⑥ REMOTE CONTROLLER (BUILD IN DIGITAL SCANNER) UNIT



PARTS LIST

MODEL NO.: NV-L20EE/EO/EV, VW-VPS5

1. NV-L20EE/EO/EV Mechanical Replacement Parts List

*This parts list is detachable
from the manual.

Note:1.*Be sure to make your orders of replacement parts according to this list.
2.IMPORTANT SAFETY NOTICE
Components identified with the mark <I> have the special characteristics for safety. When replacing any of these components,use only the same type.

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
1(1)	VHD0141	HEAD AMP SET SCREW	2	
2(1)	VMA6897	HEAD AMP MOUNT ANGLE (L)	1	
3(1)	VMA6898	HEAD AMP MOUNT ANGLE (R)	1	
4(1)	VEK3185	DEW SENSOR UNIT	1	NV-L20EE
5(1)	VXSO082	EARTH PLATE UNIT	1	
6(1)	VEG0726	CYLINDER UNIT	1	<I>
7(1)	VEH0416	UPPER CYLINDER UNIT	1	<I>
8(1)	VJRO082	RT TERMINAL	1	
10(1)	VHD0425	UPPER CYLINDER SET SCREW	2	
11(1)	VXL1495	TENSION ARM (1) UNIT	1	
12(1)	VMB1563	TENSION SPRING	1	
13(1)	VXZ0267	TENSION BAND UNIT	1	
14(1)	VXRO145	SUPPLY REEL TABLE UNIT	1	
15(1)	VXK1171	REEL WASHER (0.5mm)	2	
15(1)	VXK1239	REEL WASHER (0.3mm)	2	
15(1)	VXK1238	REEL WASHER (0.2mm)	2	
16(1)	VXL1496	TENSION RELEASE ARM(A)UNIT	1	
17(1)	VBS0038	FE HEAD	1	
18(1)	VXA2705	TENSION ARM BASE (1) UNIT	1	
19(1)	VMA6895	MOUNT ANGLE (L)	1	
20(1)	VXK1079	CUT WASHER	2	
21(1)	VXL1497	TENSION RELEASE ARM(B)UNIT	1	
22(1)	VMB1582	TENSION RELEASE SPRING	1	
23(1)	VES0489	SAFETY SW	1	
24(1)	VXZ0259	SUPPLY MAIN BRAKE UNIT	1	
25(1)	VXZ0274	SUPPLY SOFT BRAKE(1)UNIT	1	
26(1)	VMB1564	SUPPLY SOFT BRAKE SPRING	1	
27(1)	VXZ0262	TAKE UP MAIN BRAKE UNIT	1	
28(1)	VXZ0221	TAKE UP SOFT BRAKE UNIT	1	
29(1)	VMB1561	TAKE UP SOFT BRAKE SPRING	1	
30(1)	VMA6896	MOUNT ANGLE (R)	1	
31(1)	VHD0322	ADJUST SCREW	1	
32(1)	VMB1251	ADJUST SPRING	1	
33(1)	VHD0089B	AZIMUTH ADJUST SCREW	1	
34(1)	VBR0132	A/C HEAD	1	
35(1)	VHN0063	M4 NYLON NUT	1	
36(1)	VHN0110	ADJUST NUT	1	
37(1)	VMA7831	HEAD BASE	1	
38(1)	VMB1567	A/C HEAD SPRING	1	
39(1)	VXL1857	SUB LOADING ARM (1) UNIT	1	
40(1)	VMB1566	SUB POST SPRING	1	
41(1)	VXQ0006	THRUST SCREW UNIT	1	
42(1)	VHD0317	HOUSING SCREW	2	
43(1)	VXK1033	OIL SEAL	2	
44(1)	VXK1353	PINCH CAM CAP	1	
45(1)	VXL1858	PRESSURE ROLLER UNIT	1	
46(1)	VMB1941	PIN PRESSURE SPRING	1	
47(1)	VML2232	PINCH PRESSURE ARM	1	
48(1)	VMB1569	PINCH PRESSURE ARM RELEASE SPRING	1	
49(1)	VML1874	PINCH LIFT ARM	1	
50(1)	VDG0597	P5 PULL OUT SECTOR GEAR	1	
51(1)	VDG0421	PINCH CAM	1	
52(1)	VHN0023	M3 NYLON NUT	1	
53(1)	VXL1485	P5 UNIT	1	
54(1)	VMB1554	P5 SPRING	1	
55(1)	VSS0175	MODE SW	1	
57(1)	VXP0863	ROLLER POST UNIT	1	
58(1)	VXA2729	INCLIND BASE (S)(1)UNIT	1	
59(1)	VHD0133	ROLLER POST SCREW	2	
60(1)	VMD0910	POST STOPPER	2	
61(1)	VXP0764A	ROLLER POST UNIT	1	
62(1)	VXA2686	INCLIND BASE(T)(1)UNIT	1	
63(1)	VXA2687	INCLIND ADJUST PLATE UNIT	1	
64(1)	VDG0483	PINCH SPEED DOWN GEAR	1	
65(1)	VDG0332	CONNECTION GEAR	1	
66(1)	VXA3735	SOLENOID UNIT	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
67(1)	VXA2692	KICK ROD UNIT	1	
68(1)	VML1849	SOLENOID LEVER (1) UNIT	1	
69(1)	VMB1553	KICK ROD SPRING	1	
70(1)	VMB1958	MAIN BRAKE SPRING	1	
71(1)	VXRO146	TAKE UP REEL TABLE UNIT	1	
72(1)	VXD0101	HOUSING UNIT	1	
76(1)	VHD0374	HOUSING SCREW	1	
77(1)	VHD0342	CYLINDER SCREW	3	
80(1)	VMD0911	LED HOLDER	1	
81(1)	VMA7844	REINFORCEMENT PLATE (F)	1	
82(1)	VMA7845	REINFORCEMENT PLATE (R)	1	
83(1)	VMB1733	LEAF SPRING	1	
84(1)	VXK1088	SUPPLY UPPER LIMITER	1	
85(1)	VDP1072	SUPPLY ROLLER	1	
86(1)	VXK1581	P1 COLLAR	1	
87(1)	VXK1533	SUPPLY ROLLER LIMITER	1	
88(1)	VXK1544	P4 UPPER LIMITER	1	
89(1)	VXK1568	P4 SLEEVE	1	
90(1)	VXK1534	P4 LOWER LIMITER	1	
100(2)	VXK1079	CUT WASHER	5	
101(2)	VMB1583	TAKE UP SOFT BRAKE RELEASE ARM SPRING	1	
102(2)	VMB1560	MAIN LEVER SPRING	1	
103(2)	VXA3509	MAIN LEVER (1) UNIT	1	
104(2)	VMM0215	SUB LEVER	1	
105(2)	VXL1873	SS BRAKE ARM UNIT	1	
106(2)	VMB1588	SS BRAKE SPRING	1	
107(2)	VXA3512	SS BRAKE BASE (1) UNIT	1	
108(2)	VXA3516	TENSION ROLLER UNIT	1	
109(2)	VXL1632	CAM FOLLOWER ARM UNIT	1	
110(2)	VML1861	DETENT ARM	1	
111(2)	VDG0574	MAIN CAM GEAR	1	
112(2)	VDG0343	SUB CAM GEAR	1	
113(2)	VDG0348	CEVIRE GEAR	1	
114(2)	VDG0422	RETAINER GEAR	1	
115(2)	VDG0345	PLANET GEAR	3	
116(2)	VDG0547	CLUTCH DISK	1	
117(2)	VMB1558	CLUTCH SPRING	1	
118(2)	VDG0350	LOCK SLIDE GEAR	1	
119(2)	VDG0335	DRIVE DISK	1	
120(2)	VDG0342	RING GEAR	1	
121(2)	VXK0967	CUT WASHER	2	
122(2)	VML1859	CHANGE LEVER	1	
123(2)	VXA2672	RELEASE LEVER (1) UNIT	1	
124(2)	VMB1557	RELEASE SPRING	1	
125(2)	VML1860	RELEASE LEVER	1	
127(2)	VXP1002	TAKE UP REEL GEAR UNIT	1	
128(2)	VDG0445	SUPPLY REEL GEAR	1	
129(2)	VML1858	RETURN LEVER (R)	1	
130(2)	VML1857	RETURN LEVER (L)	1	
131(2)	VMD0913	STOPPER BASE	1	
132(2)	VDV0169	TIMING BELT	1	
133(2)	VXP0777	ROTOR UNIT	1	
134(2)	VMA7941	ROTOR STOPPER	1	
135(2)	VEK4105	STATOR UNIT	1	<I>
136(2)	VMA6847	SUB PLATE	1	
137(2)	VXP0917	CENTRE PULLEY UNIT	1	
138(2)	VDG0564	LOADING GEAR (T)	1	
139(2)	VMB1555	LOADING SPRING (T)	1	
140(2)	VXL1489	LOADING ARM (T)(1) UNIT	1	
141(2)	VXA3515	SECTOR GEAR UNIT	1	
142(2)	VDG0448	LOADING CAM GEAR	1	
143(2)	VDG0419	LOADING GEAR (S)	1	
144(2)	VML1855	PLAY CONTROL ARM	1	
145(2)	VXL1487	LOADING ARM (S)(1) UNIT	1	
146(2)	VDG0546	INTERMEDIATE GEAR	1	
147(2)	VXL1861	PLAY ARM UNIT	1	
148(2)	VBR0048	FG HEAD	1	
149(2)	VMB1746	LOADING SPRING(S)	1	
150(2)	VHD0431	STATOR SPACER SCREW	1	
151(2)	VHN0102	STATOR UNIT	1	
201(3)	VMA7223	TOP PLATE	1	
202(3)	VXA3765	CASSETTE HOLDER UNIT	1	
203(3)	VXA3766	HOLDER GUIDE (L) UNIT	1	
208(3)	VXA3494	HOLDER ANGLE UNIT	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks	Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
209(3)	VMA8036	CASSETTE HOLDER	1		450(6)	VKF1201	SLIDING LID	1	
210(3)	VML1882	OPENER LEVER	1		451(6)	VYK2457	TOP COVER UNIT	1	NV-L20EO/EV
212(3)	VMB1584	OPENER LEVER SPRING	1		451(6)	VYK2459	TOP COVER UNIT	1	NV-L20EE
213(3)	VMD1352	HOLDER GUIDE (R)	1		452(6)	VQ01640	SENSOR CAP	1	
214(3)	VMB1576	RELEASE SPRING	1		453(6)	VSP0417	RUBBER CONTACT (A)	1	
215(3)	VML1881	RELEASE LEVER	1		454(6)	VSL0156	LCD	1	
216(3)	VXA2676	SIDE PLATE (L) UNIT	1		455(6)	VSP0404	RUBBER CONTACT (B)	1	
217(3)	VMD0917	SIDE PLATE (L)	1		457(6)	VKW0878	IR WINDOW	1	
218(3)	VML1880	OPENER LEVER	1		458(6)	VMT0257	BASE RUBBER(LCD)	2	
219(3)	VXA3495	SIDE PLATE (R) UNIT	1		459(6)	VKM1673	BOTTOM COVER	1	
221(3)	VXA3498	SLIDE SW UNIT	1		460(6)	VJR0507	ELECTRODE(+)	1	
229(3)	VXPO987	MAIN SHAFT UNIT	1		461(6)	VJR0497	ELECTRODE(COM.)	1	
230(3)	VMB1836	SUB WIPER SPRING (L)	1		462(6)	VJR0412	ELECTRODE(-)	1	
231(3)	VML1878	SUB WIPER ARM (L)	1		463(6)	VKF1202	BATTERY COVER	1	
232(3)	VML1879	SUB WIPER ARM (R)	1						
233(3)	VMB1837	SUB WIPER SPRING (R)	1						
234(3)	VMA6900	CASSETTE GUIDE	1						
235(3)	VKF1212	BLINDER PANEL	1						
236(3)	VMB1258	BLINDER SPRING	1						
240(3)	VMA7224	CASSETTE HOLDER ANGLE	1				SERVICING FIXTURES & TOOLS		
300(4)	VYP2602	TOP PANEL UNIT	1			VFJ8125H3F	VHS ALIGNMENT TAPE	1	
301(4)	VHD0304	TOP PANEL SCREW	2			VFK0335	RETAINING RING REMOVER	1	(3mm/4mm)
302(4)	VKU0245	BOTTOM PLATE	1			VFK0387	TENSION POST ADJUSTMENT	1	
303(4)	VYP2624	FRONT PANEL UNIT	1	NV-L20EO/EV			PLATE		
303(4)	VYP2700	FRONT PANEL UNIT	1	NV-L20EE		VFK0191	POST ADJUSTMENT PLATE	1	
304(4)	VKM1120	FRONT DISPLAY PLATE	1			VFK0190	REEL TABLE HEIGHT GAUGE	1	
305(4)	VYF1348	FRONT DOOR UNIT	1			VFK0328	H-POSITION ADJUSTMENT	1	
307(4)	VGO0550	DOOR LOCK PIECE	2				SCREWDRIVER		
308(4)	VEJ0797	ANT. TERMINAL PLATE	1			VFK0329	POST ADJUSTMENT SCREWDRIVER	1	
311(4)	VHD0059	BOTTOM PLATE SCREW	4			VFK62	FAN TYPE TENSION GAUGE	1	
313(4)	VXA3635	POWER SHIELD CASE(MAIN)UNIT	1			VFK0326	HEX WRENCH SET	1	
314(4)	VSC2351	POWER SHIELD COVER (TOP)	1			VFK0132	BACK TENSION METER	1	
315(4)	VGH1476	NAME PLATE	1			VFK0343	CHECK LIGHT	1	
316(4)	VQ01377	IC. HOLDER	1			VFK0344	HEIGHT ADJUSTMENT JIG	1	
317(4)	VM21224	INSULATION SHEET	1			VFK27	HEAD CLEANING STICK	1	
318(4)	VM21140	SW BARRIER(A)	1			MOR265	MORLYTONE GREASE	1	
319(4)	VSC2237	POWER SHIELD COVER(BOTTOM)	1			VFK0341	UPPER CYLINDER REMOVER	1	
320(4)	VKCO357	MAIN HINGE	2						
321(4)	VKA0084	RUBBER FOOT	2						
322(4)	VMP1994	TOP HOLDER ANGLE (RR)	1						
323(4)	VMP1995	TOP HOLDER ANGLE (RL)	1						
326(4)	VMA7949	EARTH ANGLE	1						
327(4)	VKCO327	TIMER HINGE (A)	1						
328(4)	VKCO328	TIMER HINGE (B)	1						
329(4)	VKCO460	EARTH SPRING	1						
330(4)	VJFO707	MAIN C.B.A. HOLDER	1						
331(4)	VHD0141	MAIN SCREW	1						
400(5)	VQT3143	OPERATING INSTRUCTIONS	1	<1> NV-L20EO					
		(SPANISH/DUTCH)		[SUPPLIED FROM M.B.V.]					
400(5)	VQT3144	OPERATING INSTRUCTIONS	1	<1> NV-L20EO					
		(FINNISH/SWEDISH/DANISH)		[SUPPLIED FROM M.B.V.]					
400(5)	VQT3145	OPERATING INSTRUCTIONS	1	<1> NV-L20EE					
		(ENGLISH/GERMAN)							
400(5)	VQT3146	OPERATING INSTRUCTIONS	1	<1> NV-L20EE					
		(POLISH/RUSSIAN)							
400(5)	VQT3147	OPERATING INSTRUCTIONS	1	<1> NV-L20EO/EV					
		(ENGLISH/GERMAN/FRENCH)							
400(5)	VQT3213	OPERATING INSTRUCTIONS	1	<1> NV-L20EV					
		(ITALIAN)							
401(5)	VPK0825	ACCESSORIES BOX	1						
402(5)	VEQ0930	REMOTE CONTROL UNIT	1	NV-L20EO/EV					
		(BUILD IN DIGITAL SCANNER)							
402(5)	VEQ0932	REMOTE CONTROL UNIT	1	NV-L20EE					
		(BUILD IN DIGITAL SCANNER)							
403(5)	VJA0443	AC POWER CORD	1	<1> NV-L20EV					
403(5)	VJA0449	AC POWER CORD	1	<1> NV-L20EE/EO					
404(5)	VJA0376	DIN RF CABLE	1						
405(5)	VQC1315	PROGRAMME SHEET	1	NV-L20EO/EV					
405(5)	VQC1316	PROGRAMME SHEET	1	NV-L20EE					
406(5)	VFN2356	CUSHION (R)	1						
407(5)	VFN2357	CUSHION (L)	1						
408(5)	VPG4575	PACKING	1	NV-L20EE					
408(5)	VPG4576	PACKING	1	NV-L20EO					
				[SUPPLIED FROM M.B.V.]					
408(5)	VPG4677	PACKING	1	NV-L20EV					

2. NV-L20EE/EO/EV Electrical Replacement Parts List

Note: 1. * Be sure to make your orders of replacement parts according to this list.
 2. IMPORTANT SAFETY NOTICE
 Components identified with the mark <I> have the special characteristics for safety. When replacing any of these components, use only the same type.
 3. Unless otherwise specified,
 All resistors are in OHMS .K=1,000 OHMS. All capacitors are in MICRO-FARADS(uf), P=uuF.
 4. The P.C. Board units marked width '■' show below the main assembled parts.

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
	VEPO3588AL	MAIN C.B.A. (SYSTEM CONTROL, SERVO, LUMINANCE & CHROMINANCE, AUDIO, POWER, CH SELECT, TUNER, TV DEMODULATOR)	1	NV-L20EE <I> (NLA) INCLUDING THE SUB MAIN C.B.A. (VEPO3590P), SECAM PACK C.B.A. (VEPO3452B), INPUT/OUTPUT PACK C.B.A. (VEPO3593B), CYLINDER DRIVE PACK C.B.A. (VEPO2329A), OSC PACK C.B.A. (VEPO6583A), TV DEMODULATOR PACK C.B.A. (VEPO7550F), MULTI DECODER PACK C.B.A. (VEPO7554A).
	VEPO3588AK	MAIN C.B.A. (SYSTEM CONTROL, SERVO, LUMINANCE & CHROMINANCE, AUDIO, POWER, CH SELECT, TUNER, TV DEMODULATOR)	1	NV-L20EO <I> (NLA) [SUPPLIED FROM M.B.V.] INCLUDING THE SUB MAIN C.B.A. (VEPO3590H), INPUT/OUTPUT PACK C.B.A. (VEPO3594C), CYLINDER DRIVE PACK C.B.A. (VEPO2329A), OSC PACK C.B.A. (VEPO6583A), TV DEMODULATOR PACK C.B.A. (VEPO7536D).
	VEPO3588AH	MAIN C.B.A. (SYSTEM CONTROL, SERVO, LUMINANCE & CHROMINANCE, AUDIO, POWER, CH SELECT, TUNER, TV DEMODULATOR)	1	NV-L20EV <I> (NLA) INCLUDING THE SUB MAIN C.B.A. (VEPO3590H), INPUT/OUTPUT PACK C.B.A. (VEPO3594C), CYLINDER DRIVE PACK C.B.A. (VEPO2329A), OSC PACK C.B.A. (VEPO6583A), TV DEMODULATOR PACK C.B.A. (VEPO7536D), VPS PACK C.B.A. (VEPO7358B).
	VEPO3590P	SUB MAIN C.B.A.	1	NV-L20EE (NLA) INCLUDING THE SECAM PACK C.B.A. (VEPO3452B). INCLUDED IN MAIN C.B.A. (VEPO3588AL).
	VEPO3590H	SUB MAIN C.B.A.	1	NV-L20EO/EV (NLA) INCLUDED IN MAIN C.B.A. (VEPO3588AK/ VEPO3588AH).
	VEPO3452B	SECAM PACK C.B.A.	1	NV-L20EE (NLA) INCLUDED IN MAIN

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
				C.B.A. (VEPO3588AL).
	VEPO3593B	INPUT/OUTPUT PACK C.B.A.	1	NV-L20EE (NLA) INCLUDED IN MAIN C.B.A. (VEPO3588AL).
	VEPO3594C	INPUT/OUTPUT PACK C.B.A.	1	NV-L20EO/EV (NLA) INCLUDED IN MAIN C.B.A. (VEPO3588AK/ VEPO3588AH).
	VEPO2329A	CYLINDER DRIVE PACK C.B.A.	1	(NLA) INCLUDED IN MAIN C.B.A. (VEPO3588AL/ VEPO3588AK/ VEPO3588AH).
	VEPO6583A	OSC PACK C.B.A.	1	(NLA) INCLUDED IN MAIN C.B.A. (VEPO3588AK/ VEPO3588AH).
	VEPO7550F	TV DEMODULATOR PACK C.B.A.	1	NV-L20EE (NLA) INCLUDED IN MAIN C.B.A. (VEPO3588AL).
	VEPO7536D	TV DEMODULATOR PACK C.B.A.	1	NV-L20EO/EV (NLA) INCLUDED IN MAIN C.B.A. (VEPO3588AK/ VEPO3588AH).
	VEPO7554A	MULTI DECODER PACK C.B.A.	1	NV-L20EE (NLA) INCLUDED IN MAIN C.B.A. (VEPO3588AL).
	VEPO5137B	HEAD AMP C.B.A.	1	(NLA)
	VEPO7544D	TIMER C.B.A.	1	NV-L20EE (NLA) INCLUDING THE IR RECEIVER C.B.A. (VEPO6380G).
	VEPO7543A	TIMER C.B.A.	1	NV-L20EO/EV (NLA) INCLUDING THE IR RECEIVER C.B.A. (VEPO6380G).
	VEPO6380G	IR RECEIVER C.B.A.	1	(NLA) INCLUDED IN TIMER C.B.A. (VEPO7544D/ VEPO7543A).
	VEPO6558E	OPERATION C.B.A.	1	NV-L20EE (NLA)
	VEPO6558B	OPERATION C.B.A.	1	NV-L20EO/EV (NLA)
	VEPO1379J	POWER C.B.A.	1	NV-L20EE <I> (NLA)
	VEPO1379E	POWER C.B.A.	1	NV-L20EO/EV <I> (NLA)

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks	Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
	VXA3554	MECHANISM CONNECTION C.B.A.	1	(NLA)	C351	ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
	VEK3578	SUPPLY PHOTO Tr. C.B.A.	1	(NLA)	C352	ECQB1H562JH	P.CAPACITOR 50V 5600P	1	
		TAKE-UP PHOTO Tr. C.B.A.	1		C353	ECUM1H560JCN	C.CAPACITOR CH 50V 56P	1	
	VEP66079F	REMOTE CONTROL UNIT C.B.A.	1	NV-L20EE (NLA)	C360	ECUM1H1532FN	C.CAPACITOR CH 50V 0.015U	1	
	VEP66079G	REMOTE CONTROL UNIT C.B.A.	1	NV-L20EO/EV (NLA)	C361	ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
	ENC17959	RF CONVERTER	1	NV-L20EE <1>	C701	ECEA1EK4R7	E.CAPACITOR 25V 4.7U	1	
	ENC17954	RF CONVERTER	1	NV-L20EO/EV <1>	C702	ECEA1CK100	E.CAPACITOR 16V 10U	1	
	ENV59815H3	TUNER	1	NV-L20EE <1>	C703	ECEA1HK2R2	E.CAPACITOR 50V 2.2U	1	
	ENV57829H6	TUNER	1	NV-L20EO/EV <1>	C705	ECEA1EK4R7	E.CAPACITOR 25V 4.7U	1	
	VEPO3588AL	MAIN C.B.A.		NV-L20EE <1> (NLA)	C706	ECUM1H1042FN	C.CAPACITOR CH 50V 0.1U	1	
		CAPACITORS			C708	ECEA1CK100	E.CAPACITOR 16V 10U	1	
C301	ECEA1EKN2R2	E.CAPACITOR 25V 2.2U	1		C709	ECEA1EK4R7	E.CAPACITOR 25V 4.7U	1	
C302	ECEA0JK220	E.CAPACITOR 6.3V 22U	1		C710	ECUM1H1032FN	C.CAPACITOR CH 50V 0.01U	1	
C303	ECUM1E1042FN	C.CAPACITOR CH 25V 0.1U	1		C715-20	ECUM1H1032FN	C.CAPACITOR CH 50V 0.01U	6	
C304	ECEA0J331	E.CAPACITOR 6.3V 330U	1		C721	ECEA1HKR27K	E.CAPACITOR 50V 0.27U	1	
C305	ECEA1CK100	E.CAPACITOR 16V 10U	1		C722	ECUM1H1032FN	C.CAPACITOR CH 50V 0.01U	1	
C306	ECEA1EK4R7	E.CAPACITOR 25V 4.7U	1		C723	ECUM1H120JCN	C.CAPACITOR CH 50V 12P	1	
C307	ECUM1H470JCN	C.CAPACITOR CH 50V 47P	1		C725	ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C308	ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1		C728	ECUM1H1032FN	C.CAPACITOR CH 50V 0.01U	1	
C310	ECEA1CK100	E.CAPACITOR 16V 10U	1		C730	ECEA1CK100	E.CAPACITOR 16V 10U	1	
C311,12	ECUM1H180JCN	C.CAPACITOR CH 50V 18P	2		C731	ECEA1CKS100	E.CAPACITOR 16V 10U	1	
C313	ECEA1CK100	E.CAPACITOR 16V 10U	1		C732	ECQV1H224JZ	P.CAPACITOR 50V 0.22U	1	
C314	ECUM1H121JCN	C.CAPACITOR CH 50V 120P	1		C734	ECUM1H1032FN	C.CAPACITOR CH 50V 0.01U	1	
C315	ECUM1H560JCN	C.CAPACITOR CH 50V 56P	1		C735	ECUM1H070DCN	C.CAPACITOR CH 50V 7P	1	
C317	ECEA1AK470U	E.CAPACITOR 10V 47U	1		C736	ECQB1H103JH	P.CAPACITOR 50V 0.01U	1	
C319	ECUM1H471KBN	C.CAPACITOR CH 50V 470P	1		C737	ECUM1H151JCN	C.CAPACITOR CH 50V 150P	1	
C320	ECUM1H270JCN	C.CAPACITOR CH 50V 27P	1		C739	ECEA1HK010	E.CAPACITOR 50V 1U	1	
C321	ECEA1HK010	E.CAPACITOR 50V 1U	1		C740	ECUM1H1032FN	C.CAPACITOR CH 50V 0.01U	1	
C322	ECEA1HK2R2	E.CAPACITOR 50V 2.2U	1		C741	ECEA1CK100	E.CAPACITOR 16V 10U	1	
C324	ECEA1CK100	E.CAPACITOR 16V 10U	1		C742	ECUM1H030CCN	C.CAPACITOR CH 50V 3P	1	
C325,26	ECUM1H1032FN	C.CAPACITOR CH 50V 0.01U	2		C743	ECUM1H270JCN	C.CAPACITOR CH 50V 27P	1	
C327,28	ECEA1CK100	E.CAPACITOR 16V 10U	2		C744	ECEA1HKR47	E.CAPACITOR 50V 0.47U	1	
C329	ECUM1H1032FN	C.CAPACITOR CH 50V 0.01U	1		C745	ECUM1H680JCN	C.CAPACITOR CH 50V 68P	1	
C331	ECUM1H1032FN	C.CAPACITOR CH 50V 0.01U	1		C746	ECUM1H150JCN	C.CAPACITOR CH 50V 15P	1	
C332	ECQV1H334JZ	P.CAPACITOR 50V 0.33U	1		C748,49	ECEA1CK100	E.CAPACITOR 16V 10U	2	
C333	ECEA1HK4R7	E.CAPACITOR 50V 4.7U	1		C760	ECQV1H683JZ	P.CAPACITOR 50V 0.068U	1	
C334	ECUM1H1032FN	C.CAPACITOR CH 50V 0.01U	1		C771	ECUM1H180JCN	C.CAPACITOR CH 50V 18P	1	
C335	ECUM1H680JCN	C.CAPACITOR CH 50V 68P	1		C772	ECUM1H820JCN	C.CAPACITOR CH 50V 82P	1	
C336	ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1		C773,74	ECQB1H103JH	P.CAPACITOR 50V 0.01U	2	
C337	ECUM1H270JCN	C.CAPACITOR CH 50V 27P	1		C775	ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C338	ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1		C776	ECEA1HK010	E.CAPACITOR 50V 1U	1	
C339	ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1		C777	ECQB1H103JH	P.CAPACITOR 50V 0.01U	1	
C340	ECEA1EK4R7	E.CAPACITOR 25V 4.7U	1		C778	ECEA1CK470U	E.CAPACITOR 16V 47U	1	
C349	ECUM1H470JCN	C.CAPACITOR CH 50V 47P	1		C779	ECEA1CK100	E.CAPACITOR 16V 10U	1	
					C780	ECUM1H1032FN	C.CAPACITOR CH 50V 0.01U	1	
					C781	ECUM1H390JCN	C.CAPACITOR CH 50V 39P	1	
					C782	ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
					C783	ECEA1CK100	E.CAPACITOR 16V 10U	1	
					C784	ECEA1CK470U	E.CAPACITOR 16V 47U	1	
					C785,86	ECEA1CK100	E.CAPACITOR 16V 10U	2	
					C789	ECEA1HK2R2	E.CAPACITOR 50V 2.2U	1	
					C790	ECUM1H560JCN	C.CAPACITOR CH 50V 56P	1	
					C791	ECQB1H153JH	P.CAPACITOR 50V 0.015U	1	
					C792	ECEA1CK100	E.CAPACITOR 16V 10U	1	
					C794	ECEA1HK2R2	E.CAPACITOR 50V 2.2U	1	
					C795,96	ECEA1CK100	E.CAPACITOR 16V 10U	2	
					C797-99	ECUM1H1032FN	C.CAPACITOR CH 50V 0.01U	3	
					C814	ECEA1AK101	E.CAPACITOR 10V 100U	1	
					C815	ECQV1H154JZ	P.CAPACITOR 50V 0.15U	1	
					C816	ECUM1E1042FN	C.CAPACITOR CH 25V 0.1U	1	
					C817	ECQV1H124JZ	P.CAPACITOR 50V 0.12U	1	
					C818	ECUM1H471KBN	C.CAPACITOR CH 50V 470P	1	
					C819	ECUM1H820JCN	C.CAPACITOR CH 50V 82P	1	
					C820	ECEA1HK2R2	E.CAPACITOR 50V 2.2U	1	
					C821	ECEA1HFS4R7	E.CAPACITOR 50V 4.7U	1	
					C823	ECEA1HK2R2	E.CAPACITOR 50V 2.2U	1	
					C824	ECEA1HK010	E.CAPACITOR 50V 1U	1	
					C825	ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
					C826	ECEA1AU221	E.CAPACITOR 10V 220U	1	
					C827	ECUM1H050DCN	C.CAPACITOR CH 50V 5P	1	
					C828	ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
					C829	ECQV1H474JZ	P.CAPACITOR 50V 0.47U	1	
					C830	ECEA1EK4R7	E.CAPACITOR 25V 4.7U	1	
					C831,32	ECUM1E1042FN	C.CAPACITOR CH 25V 0.1U	2	
					C833	ECUM1H471KBN	C.CAPACITOR CH 50V 470P	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks	Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C851	ECKF1H1032F	C. CAPACITOR 50V 0.01U	1		C3081	ECEA1CK220	E. CAPACITOR 16V 22U	1	
C852	ECEA1CK330U	E. CAPACITOR 16V 33U	1		C3101	ECEA0JK470	E. CAPACITOR 6.3V 47U	1	
C853	ECEA10247	E. CAPACITOR 10V 47U	1		C3102	ECEA1CK470U	E. CAPACITOR 16V 47U	1	
C854	ECQV1H563J2	P. CAPACITOR 50V 0.056U	1		C3103,04	ECUM1H332KBN	C. CAPACITOR CH 50V 3300P	2	
C855	ECEA1CK330U	E. CAPACITOR 16V 33U	1		C3105	ECEA1CK100	E. CAPACITOR 16V 10U	1	
C856	ECKF1H1032F	C. CAPACITOR 50V 0.01U	1		C4001	ECQB1H153JH	P. CAPACITOR 50V 0.015U	1	
C858	ECKF1H681KB	C. CAPACITOR 50V 680P	1		C4002	ECEA16M33	E. CAPACITOR 16V 33U	1	
C1001	ECEA1EK470	E. CAPACITOR 25V 47U	1		C4003	ECKF1H1022F	C. CAPACITOR 50V 1000P	1	
C1003	ECEA0JK101U	E. CAPACITOR 6.3V 100U	1		C4004	ECQP1332J2	P. CAPACITOR 100V 3300P	1	
C1004	ECEA1CK470U	E. CAPACITOR 16V 47U	1		C4005	ECCD2H121K	C. CAPACITOR 500V 120P	1	
C2001	ECEA0JK221	E. CAPACITOR 6.3V 220U	1		C4006	ECEA1CK470U	E. CAPACITOR 16V 47U	1	
C2002	ECUM1H1042FN	C. CAPACITOR CH 50V 0.1U	1		C4007	ECEA1CK330U	E. CAPACITOR 16V 33U	1	
C2003	ECQB1H472JH	P. CAPACITOR 50V 4700P	1		C4008	ECEA1HK010	E. CAPACITOR 50V 1U	1	
C2004	ECUM1H1032FN	C. CAPACITOR CH 50V 0.01U	1		C4009	ECEA1EK470	E. CAPACITOR 25V 4.7U	1	
C2005	ECQV1H394J2	P. CAPACITOR 50V 0.39U	1		C4012	ECEA1CK100	E. CAPACITOR 16V 10U	1	
C2006	ECEA0JK470	E. CAPACITOR 6.3V 47U	1		C4013	ECUM1H681JN	C. CAPACITOR CH 50V 680P	1	
C2007	ECUM1H472KBN	C. CAPACITOR CH 50V 4700P	1		C4015	ECEA16M10	E. CAPACITOR 16V 10U	1	
C2008	ECEA1HKNO10	E. CAPACITOR 50V 1U	1		C4016	ECUM1H102KBN	C. CAPACITOR CH 50V 1000P	1	
C2009	ECEA1CKN100	E. CAPACITOR 16V 10U	1		C4017	ECEA10M47	E. CAPACITOR 10V 47U	1	
C2010	ECEA1HKR47	E. CAPACITOR 50V 0.47U	1		C4018	ECQB1H822JH	P. CAPACITOR 50V 8200P	1	
C2011	ECUM1H562KBN	C. CAPACITOR CH 50V 5600P	1		C4019	ECEA1CKS100	E. CAPACITOR 16V 10U	1	
C2012	VCYD1E473KR	S. CAPACITOR 25V 0.047U	1		C4020	ECUM1H102KBN	C. CAPACITOR CH 50V 1000P	1	
C2013	ECEA1HK470	E. CAPACITOR 50V 4.7U	1		C4021	ECEA1AK101	E. CAPACITOR 10V 100U	1	
C2014	ECEA0JK221	E. CAPACITOR 6.3V 220U	1		C4022	ECUM1H102KBN	C. CAPACITOR CH 50V 1000P	1	
C2015	ECEA0JK101U	E. CAPACITOR 6.3V 100U	1		C4023	ECUM1H221JCN	C. CAPACITOR CH 50V 220P	1	
C2016	VCYD1E223KR	S. CAPACITOR 25V 0.022U	1		C4024,25	ECUM1H101JCN	C. CAPACITOR CH 50V 100P	2	
C2017	ECEA0JK221	E. CAPACITOR 6.3V 220U	1		C4026	ECUM1H1042FN	C. CAPACITOR CH 50V 0.1U	1	
C2018	ECEA1CK100	E. CAPACITOR 16V 10U	1		C4029	ECQB1H123JH	P. CAPACITOR 50V 0.012U	1	
C2019	ECEA1HKNR2	E. CAPACITOR 50V 2.2U	1		C4033	ECQB1H102JH	P. CAPACITOR 50V 1000P	1	
C2020	VCYD1E473KR	S. CAPACITOR 25V 0.047U	1		C6001,02	ECEA0JK470	E. CAPACITOR 6.3V 47U	2	
C2022	ECEA1HKNR2	E. CAPACITOR 50V 2.2U	1		C6005	ECEA1CK330U	E. CAPACITOR 16V 33U	1	
C2024	ECQV1H104J2	P. CAPACITOR 50V 0.1U	1		C6006	ECEA0JK330	E. CAPACITOR 6.3V 33U	1	
C2025	ECQV1H683J2	P. CAPACITOR 50V 0.068U	1		C6007	VCYD1C104MR1	S. CAPACITOR 16V 0.1U	1	
C2026	ECQV1H224J2	P. CAPACITOR 50V 0.22U	1		C6008	ECUM1H1032FN	C. CAPACITOR CH 50V 0.01U	1	
C2027	ECEA1HKR47	E. CAPACITOR 50V 0.47U	1		C6010	ECUM1H332KBN	C. CAPACITOR CH 50V 3300P	1	
C2028	ECQB1H333JH	P. CAPACITOR 50V 0.033U	1		C6011,12	ECUM1H271JCN	C. CAPACITOR CH 50V 270P	2	
C2029	ECEA0JK470	E. CAPACITOR 6.3V 47U	1		C6013	ECKF1H1032F	C. CAPACITOR 50V 0.01U	1	
C2030	ECEA1CK100	E. CAPACITOR 16V 10U	1		C6014	ECEA1CK220	E. CAPACITOR 16V 22U	1	
C2031	ECQV1H104J2	P. CAPACITOR 50V 0.1U	1		C6015	ECEA1CK330U	E. CAPACITOR 16V 33U	1	
C2033	ECUM1H1032FN	C. CAPACITOR CH 50V 0.01U	1		C6021	ECUM1H332KBN	C. CAPACITOR CH 50V 3300P	1	
C2034	ECEA0JK330	E. CAPACITOR 6.3V 33U	1		C6022	ECKF1H1032F	C. CAPACITOR 50V 0.01U	1	
C2050	ECEA0JK221	E. CAPACITOR 6.3V 220U	1		C6025	ECUM1H1032FN	C. CAPACITOR CH 50V 0.01U	1	
C2101-03	ECQB1H333JH	P. CAPACITOR 50V 0.033U	3		C6028	ECKF1H332KB	C. CAPACITOR 50V 3300P	1	
C2104-06	ECEA1HKR2	E. CAPACITOR 50V 2.2U	3		C6029	ECKF1H1032F	C. CAPACITOR 50V 0.01U	1	
C2107,08	VCYD1E333KR	S. CAPACITOR 25V 0.033U	2		C6101	ECUM1H1032FN	C. CAPACITOR CH 50V 0.01U	1	
C2111	ECEA1CK101	E. CAPACITOR 16V 100U	1		C6102	ECQV1H104J2	P. CAPACITOR 50V 0.1U	1	
C2115	ECEA1CK470U	E. CAPACITOR 16V 47U	1		C6103	ECEA0JK470	E. CAPACITOR 6.3V 47U	1	
C2116	ECEA1EU221	E. CAPACITOR 25V 220U	1		C6104	ECUM1H181JCN	C. CAPACITOR CH 50V 180P	1	
C2118	VCYD1E333KR	S. CAPACITOR 25V 0.033U	1		C6105	ECUM1H101JCN	C. CAPACITOR CH 50V 100P	1	
C2121	ECQV1H184J2	P. CAPACITOR 50V 0.18U	1		C6106	ECUM1H150JCN	C. CAPACITOR CH 50V 15P	1	
C2201	ECEA1CK100	E. CAPACITOR 16V 10U	1		C7401	ECEA0JU221	E. CAPACITOR 6.3V 220U	1	
C2203	ECQV1H104J2	P. CAPACITOR 50V 0.1U	1		C7402	EECS5R5V473	E. CAPACITOR 5.5V 0.047	1	
C2204-06	ECEA1HKR1	E. CAPACITOR 50V 0.1U	3		C7404	ECKF1H2232F	C. CAPACITOR 50V 0.022U	1	
C2207	ECQV1H104J2	P. CAPACITOR 50V 0.1U	1		C7409	ECQV1H104J2	P. CAPACITOR 50V 0.1U	1	
C2208-10	ECEA1VKNR7	E. CAPACITOR 35V 4.7U	3		C7410	ECUM1H1032FN	C. CAPACITOR CH 50V 0.01U	1	
C2211	ECQB1H473JH	P. CAPACITOR 50V 0.047U	1		C7421	ECUM1H1032FN	C. CAPACITOR CH 50V 0.01U	1	
C2212	ECEA0JK101U	E. CAPACITOR 6.3V 100U	1		C7422	ECKF1H272KB	C. CAPACITOR 50V 2700P	1	
C2213	ECEA1CK100	E. CAPACITOR 16V 10U	1		C7423	ECKF1H1032F	C. CAPACITOR 50V 0.01U	1	
C3001	ECEA1CK470U	E. CAPACITOR 16V 47U	1		C7651	ECEA1CKN100	E. CAPACITOR 16V 10U	1	
C3002	ECEA0JU471	E. CAPACITOR 6.3V 470U	1		C7653	ECQB1H392JH	P. CAPACITOR 50V 3900P	1	
C3003,04	ECUM1H1032FN	C. CAPACITOR CH 50V 0.01U	2		C7654	ECQB1H103JH	P. CAPACITOR 50V 0.01U	1	
C3010	ECUM1H151JCN	C. CAPACITOR CH 50V 150P	1		C7655,56	ECEA1HK010	E. CAPACITOR 50V 1U	2	
C3011	ECUM1H330JCN	C. CAPACITOR CH 50V 33P	1		C7657	ECUM1H1032FN	C. CAPACITOR CH 50V 0.01U	1	
C3012	ECUM1H681KBN	C. CAPACITOR CH 50V 680P	1		C7658	ECQP1562J2	P. CAPACITOR 100V 5600P	1	
C3013	ECEA1HKNO10	E. CAPACITOR 50V 1U	1		C7659	ECQB1H272JH	P. CAPACITOR 50V 2700P	1	
C3014	ECUM1H330JCN	C. CAPACITOR CH 50V 33P	1		C7661	ECQV1H104J2	P. CAPACITOR 50V 0.1U	1	
C3015	VCYD1E103KR	S. CAPACITOR 25V 0.01U	1		C7662	ECQV1H683J2	P. CAPACITOR 50V 0.068U	1	
C3016	ECEA0JK470	E. CAPACITOR 6.3V 47U	1		C7663	ECQV1H823J2	P. CAPACITOR 50V 0.082U	1	
C3017,18	ECUM1H1032FN	C. CAPACITOR CH 50V 0.01U	2		C7664	ECQB1H273JH	P. CAPACITOR 50V 0.027U	1	
C3019	ECUM1H220JCN	C. CAPACITOR CH 50V 22P	1		C7665,66	ECUM1H1032FN	C. CAPACITOR CH 50V 0.01U	2	
C3053	ECEA0JK101U	E. CAPACITOR 6.3V 100U	1		C7667	ECEA1HKA100	E. CAPACITOR 50V 10U	1	
C3064	ECQB1H103JH	P. CAPACITOR 50V 0.01U	1		C7670,71	ECUM1H1032FN	C. CAPACITOR CH 50V 0.01U	2	
C3067,68	ECUM1H1032FN	C. CAPACITOR CH 50V 0.01U	2		C7673	ECUM1H1032FN	C. CAPACITOR CH 50V 0.01U	1	
C3070	ECUM1H1032FN	C. CAPACITOR CH 50V 0.01U	1		C7675	ECEA1HKNO10	E. CAPACITOR 50V 1U	1	
C3076	ECUM1H180JCN	C. CAPACITOR CH 50V 18P	1		C7676,77	ECUM1H1032FN	C. CAPACITOR CH 50V 0.01U	2	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C7678	ECEA1CK100	E.CAPACITOR 16V 10U	1	
C7680	ECEA1HK010	E.CAPACITOR 50V 1U	1	
C7681	ECKF1H1032F	C.CAPACITOR 50V 0.01U	1	
D301	MA4091M	DIODE	1	
D710	MA3100L	DIODE	1	
D713,14	MA151K	DIODE	2	
D715	MA3091	DIODE	1	
D716	MA28WA	DIODE	1	
D771	MA151WK	DIODE	1	
D772	MA165	DIODE	1	
D773	MA151K	DIODE	1	
D1001,02	MA165	DIODE	2	
D2003,04	MA165	DIODE	2	
D2007,08	MA165	DIODE	2	
D3001	MA165	DIODE	1	
D3009	MA165	DIODE	1	
D3101	MA165	DIODE	1	
D3102	MA27WA	DIODE	1	
D4003	MA165	DIODE	1	
D6001	MA4051	DIODE	1	
D6002-04	MA165	DIODE	3	
D6005	ERA15-01	DIODE	1	
D6006,07	MA165	DIODE	2	
D6008	MA723	DIODE	1	
D6009	MA4150L	DIODE	1	
D6021	MA723	DIODE	1	
D7401,02	MA723	DIODE	2	
DL802	EFDBR124A53T	DELAY	1	
FL301	ELB4M022	FILTER	1	
FL302	VLF0499	FILTER	1	
FL303	VLF0727	FILTER	1	
FL801	ELB4W002	FILTER	1	
FL851	VLF0143	FILTER	1	
FL3101	VLF0413	FILTER	1	
IC301	VEFH03D	HIC	1	
IC303	MSM6965-3RS	IC	1	
IC701	M51366SP	IC	1	
IC702	UPC1167C2	IC	1	
IC703	UPD4066BC	IC	1	
IC801	VEFH04F	IC	1	
IC851	BA7025L	IC	1	
IC2001	MN6740VCTK	IC	1	
IC2101	BA6435S	IC	1	
IC2201	AN3814K	IC	1	
IC3101	BA7004	IC	1	
IC4001	BA7766AS	IC	1	
IC6002	LM393PS	IC	1	
IC6003	MN12821R	IC	1	
IC7651	AN5421N	IC	1	
IC7652	AN5043	IC	1	
IC7653	MN4066BS	IC	1	
KR851	VJRO163	PACK PIN	1	
L301	VLQEL05F101K	COIL 100UH	1	
L302	VLQEL05F220K	COIL 22UH	1	
L303,04	VLQEL05F101K	COIL 100UH	2	
L306	VLQEL05F101K	COIL 100UH	1	
L307	VLQEL05F151K	COIL 150UH	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
L308	VLQEL05F270K	COIL 27UH	1	
L309,10	VLQEL05F101K	COIL 100UH	2	
L311	VLQEL05F2R2K	COIL 2.2UH	1	
L701,02	ELESP680KA	COIL 68UH	2	
L711	ELQT1R2KB	COIL 1.2UH	1	
L713	VLQ0305JR56	COIL 0.56UH	1	
L714	VLQ0305J1R2	COIL 1.2UH	1	
L715	VLQ0213K680	COIL 68UH	1	
L717,18	ELESP680KA	COIL 68UH	2	
L719	ELESP5R6KA	COIL 5.6UH	1	
L757	ELESP820KA	COIL 82UH	1	
L781	ELESP680KA	COIL 68UH	1	
L804	VLQ0213K150	COIL 15UH	1	
L805	VLQEL05F101K	COIL 100UH	1	
L806	VLQEL05F681K	COIL 680UH	1	
L808	VLQEL05F470K	COIL 47UH	1	
L809	VLQEL05F331K	COIL 330UH	1	
L810	VLQEL05F101K	COIL 100UH	1	
L811	VLQEL05F470K	COIL 47UH	1	
L812	VLQEL05F681K	COIL 680UH	1	
L851	VLQEL05F101K	COIL 100UH	1	
L2002	VLPO074	COIL	1	
L2003	VLQEL05F101K	COIL 100UH	1	
L2101	VLQEL05F102K	COIL 1000UH	1	
L3001-03	VLQEL05F101K	COIL 100UH	3	
L3005	VLQEL05F120K	COIL 12UH	1	
L3006	VLQEL05F6R8K	COIL 6.8UH	1	
L3007	VLQEL05F101K	COIL 100UH	1	
L3008	VLQEL05F3R3K	COIL 3.3UH	1	
L3101	VLQEL05F101K	COIL 100UH	1	
L4001	VLQEL07F822J	COIL 8200UH	1	
L4002	VLQEL05F471K	COIL 470UH	1	
L6101	VLQEL05F101K	COIL 100UH	1	
L7401	VLQEL05F1R0K	COIL 1UH	1	
L7402	VLQEL05F101K	COIL 100UH	1	
L7404	VLQEL05F1R0K	COIL 1UH	1	
P001	VJS1237T	CONNECTOR	1	
P006	VJS1902	CONNECTOR (FEMALE)	1	
P501	VJS1237T	CONNECTOR	1	
P1001	VJF0171T	CONNECTOR	1	
P1001	VJP1393T	CONNECTOR (MALE) 13P	1	
P1101	VJF0171T	CONNECTOR	1	
P2001	VJP1932T	CONNECTOR (MALE)	1	
P2001	VJS1932T	CONNECTOR (FEMALE)	1	
P2201	VJP1237T	CONNECTOR (MALE) 10P	1	
P2201	VJS1237T	CONNECTOR	1	
P3001	VJP1237T	CONNECTOR (MALE) 10P	1	
P3001	VJS1237T	CONNECTOR	1	
P4001	VJP2622	CONNECTOR (MALE)	1	
P6001	VJS2571A012	CONNECTOR	1	
P6002	VJS2571A004	CONNECTOR	1	
P7401	VJS1662	CONNECTOR (FEMALE)	1	
P7402	VJS2571A015	CONNECTOR (FEMALE)	1	
PK701	VJRO231	PACK PIN	1	
PK702,03	VJRO406	PACK PIN	2	
PK704	VJRO231	PACK PIN	1	
PK2201	VJRO452	PACK PIN	1	
PK2202	VJRO348	PACK PIN	1	
PK3901	VJRO348	PACK PIN	1	
PK3902	VJRO523	PACK PIN	1	
PK3903	VJRO348	PACK PIN	1	
PK3904	VJRO416	PACK PIN	1	
PK6101	VJRO277	PACK PIN	1	
Q301	2SB709	TRANSISTOR CHIP	1 (Q,R,S)	
Q302,03	2SC2295	TRANSISTOR CHIP	2 (B,C)	
Q304	2SD601	TRANSISTOR CHIP	1 (Q,R,S)	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks	Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
Q703	2SD601	TRANSISTOR	1	(S,T)	R334,35	ERJ6GMYJ102	CHIP 1/10W 1K	2	
Q710	2SC1047	TRANSISTOR	1	(C)	R338	ERJ6GMYJ124	CHIP 1/10W 120K	1	
Q712	2SD638	TRANSISTOR	1		R339	ERJ6GMYJ101	CHIP 1/10W 100	1	
Q713	2SD1328	TRANSISTOR	1		R712	ERJ6GEYJ682	CHIP 1/10W 6.8K	1	
Q715,16	2SD601	TRANSISTOR CHIP	2	(S,T)	R713	ERJ6GEYJ681	CHIP 1/10W 680	1	
Q722	2SD1328	TRANSISTOR	1		R714	ERD2FCG330	C.RESISTOR 2W 33	1	
Q771	2SD601	TRANSISTOR	1	(S,T)	R715	ERJ6GEYJ271	CHIP 1/10W 270	1	
Q772	2SD601	TRANSISTOR CHIP	1	(S,T)	R716	ERJ6GEYJ272	CHIP 1/10W 2.7K	1	
Q804	2SB709	TRANSISTOR CHIP	1	(Q,R,S)	R717	ERJ6GEYJ332	CHIP 1/10W 3.3K	1	
Q2001	2SD601	TRANSISTOR CHIP	1	(Q,R,S)	R718	ERJ6GEYJ754	CHIP 1/10W 750K	1	
Q2002	2SD1330	TRANSISTOR	1	(S,T)	R719	ERJ6GEYJ682	CHIP 1/10W 6.8K	1	
Q3001	2SC2295	TRANSISTOR	1		R720	ERJ6GEYJ822	CHIP 1/10W 8.2K	1	
Q3003	2SD601	TRANSISTOR CHIP	1		R721	ERJ6GEYJ392	CHIP 1/10W 3.9K	1	
Q3004	2SB709	TRANSISTOR CHIP	1	(Q,R,S)	R722	ERJ6GEYJ432	CHIP 1/10W 4.3K	1	
Q3006	2SC2295	TRANSISTOR	1		R723	ERJ6GEYJ183	CHIP 1/10W 180K	1	
Q3007	2SB709	TRANSISTOR CHIP	1	(Q,R,S)	R724	ERJ6GEYJ101	M.RESISTOR CH 1/10W 100	1	
Q3101	2SD601	TRANSISTOR CHIP	1		R725	ERJ6GEYJ182	CHIP 1/10W 1.8K	1	
Q4001	2SD602	TRANSISTOR	1	(R)	R726	ERJ6GEYJ472	CHIP 1/10W 4.7K	1	
Q6001	2SD893	TRANSISTOR	1		R727	ERJ6GEYJ471	CHIP 1/10W 470	1	
Q6002,03	2SD973	TRANSISTOR	2	(S)	R728	ERDS2TJ471	C.RESISTOR 1/4W 470	1	
Q6004	2SD638	TRANSISTOR	1		R729,30	ERJ6GEYJ331	CHIP 1/10W 330	2	
Q6006	2SB643	TRANSISTOR	1		R737	ERJ6GEYJ274	CHIP 1/10W 270K	1	
Q6007	2SB710	TRANSISTOR	1	(R,S)	R738	ERJ6GEYJ334	CHIP 1/10W 330K	1	
Q6008	2SD1273	TRANSISTOR	1	(P,O)	R739	ERJ6GEYJ681	CHIP 1/10W 680	1	
Q6010	2SD637	TRANSISTOR	1		R740	ERJ6GEYJ473	CHIP 1/10W 47K	1	
Q6011	2SB709	TRANSISTOR CHIP	1		R743	ERJ6GEYJ470	CHIP 1/10W 47	1	
Q6101	2SC2206	TRANSISTOR	1	(B,C)	R744	ERJ6GEYJ821	CHIP 1/10W 820	1	
					R745	ERJ6GEYJ181	CHIP 1/10W 180	1	
					R746	ERDS2TJ181	C.RESISTOR 1/4W 180	1	
					R750	ERJ6GEYJ182	CHIP 1/10W 1.8K	1	
QR701,02	UN2213	TRANSISTOR-RESISTOR	2		R751	ERJ6GEYJ562	CHIP 1/10W 5.6K	1	
QR711,12	UN2212	TRANSISTOR-RESISTOR	2		R756	ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
QR713	UN2211	TRANSISTOR-RESISTOR	1		R757	ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
QR717	UN2211	TRANSISTOR-RESISTOR	1		R757	ERJ6GEYJ222	CHIP 1/10W 2.2K	1	
QR720,21	UN2211	TRANSISTOR-RESISTOR	2		R758	ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
QR853	UN1213	TRANSISTOR-RESISTOR	1		R763	ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
QR1001	UN2213	TRANSISTOR-RESISTOR	1		R764	ERJ6GEYJ822	CHIP 1/10W 8.2K	1	
QR2002	DTC363EK	TRANSISTOR-RESISTOR	1		R771	ERJ6GEYJ472	CHIP 1/10W 4.7K	1	
QR2004	2SD1676	COMBINATION PARTS	1		R772	ERJ6GEYJ271	CHIP 1/10W 270	1	
QR2005	UN2213	TRANSISTOR-RESISTOR	1		R773	ERJ6GEYJ472	CHIP 1/10W 4.7K	1	
QR3004	UN2111	TRANSISTOR-RESISTOR	1		R774	ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
QR3008	UN2213	TRANSISTOR-RESISTOR	1		R774	ERJ6GEYJ562	CHIP 1/10W 5.6K	1	
QR4001	UN2213	TRANSISTOR-RESISTOR	1		R775	ERJ6GEYJ123	CHIP 1/10W 12K	1	
QR6002	UN2119	TRANSISTOR-RESISTOR	1		R776	ERJ6GEYJ122	CHIP 1/10W 1.2K	1	
QR6003	UN2113	TRANSISTOR-RESISTOR	1		R777	ERJ6GEYJ333	CHIP 1/10W 33K	1	
QR6004	UN2213	TRANSISTOR-RESISTOR	1		R778	ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
QR6007	UN2212	TRANSISTOR-RESISTOR	1		R779	ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
QR6011,12	UN2212	TRANSISTOR-RESISTOR	2		R780	ERJ6GEYJ182	CHIP 1/10W 1.8K	1	
QR7401	UN2211	TRANSISTOR-RESISTOR	1		R781	ERJ6GEYJ271	CHIP 1/10W 270	1	
					R782	ERJ6GEYJ471	CHIP 1/10W 470	1	
					R783	ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
					R784	ERJ6GEYJ472	CHIP 1/10W 4.7K	1	
		RESISTORS			R785	ERJ6GEYJ821	CHIP 1/10W 820	1	
R301	ERJ6GMYJ122	CHIP 1/10W 1.2K	1		R787,88	ERJ6GEYJ222	CHIP 1/10W 2.2K	2	
R302	ERJ6GMYJ391	CHIP 1/10W 390	1		R789	ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R303	ERJ6GMYJ103	CHIP 1/10W 10K	1		R790	ERJ6GEYJ472	CHIP 1/10W 4.7K	1	
R304	ERJ6GMYJ102	CHIP 1/10W 1K	1		R791	ERJ6GEYJ392	CHIP 1/10W 3.9K	1	
R305	ERJ6GMYJ824	CHIP 1/10W 820K	1		R792	ERDS2TJ120	C.RESISTOR 1/4W 12	1	
R306	ERJ6GMYJ152	CHIP 1/10W 1.5K	1		R792	ERJ6GEYJ101	M.RESISTOR CH 1/10W 100	1	
R307	ERJ6GMYJ102	CHIP 1/10W 1K	1		R793	ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R308	ERJ6GMYJ123	CHIP 1/10W 12K	1		R794	ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R309	ERJ6GMYJ272	CHIP 1/10W 2.7K	1		R795	ERJ6GEYJ222	CHIP 1/10W 2.2K	1	
R310	ERJ6GMYJ103	CHIP 1/10W 10K	1		R795,96	ERJ6GEYJ334	CHIP 1/10W 330K	2	
R311	ERJ6GMYJ272	CHIP 1/10W 2.7K	1		R797	ERJ6GEYJ331	CHIP 1/10W 330	1	
R312	ERJ6GMYJ182	CHIP 1/10W 1.8K	1		R815	ERJ6GMYJ103	CHIP 1/10W 10K	1	
R317	ERJ6GMYJ471	CHIP 1/10W 470	1		R816	ERJ6GMYJ822	CHIP 1/10W 8.2K	1	
R320	ERJ6GMYJ102	CHIP 1/10W 1K	1		R818	ERJ6GMYJ102	CHIP 1/10W 1K	1	
R325	ERJ6GMYJ151	CHIP 1/10W 150	1		R819	ERJ6GMYJ182	CHIP 1/10W 1.8K	1	
R326	ERJ6GMYJ822	CHIP 1/10W 8.2K	1		R820	ERJ6GMYJ222	CHIP 1/10W 2.2K	1	
R327	ERJ6GMYJ332	CHIP 1/10W 3.3K	1		R821	ERJ6GMYJ273	CHIP 1/10W 27K	1	
R328	ERJ6GMYJ272	CHIP 1/10W 2.7K	1		R822	ERJ6GMYJ183	CHIP 1/10W 18K	1	
R329	ERJ6GMYJ103	CHIP 1/10W 10K	1		R823	ERJ6GMYJ271	CHIP 1/10W 270	1	
R330	ERJ6GMYJ183	CHIP 1/10W 18K	1		R824	ERJ6GMYJ102	CHIP 1/10W 1K	1	
R331	ERJ6GMYJ561	CHIP 1/10W 560	1		R825	ERJ6GMYJ182	CHIP 1/10W 1.8K	1	
R332	ERJ6GMYJ222	CHIP 1/10W 2.2K	1		R831	ERJ6GMYJ821	CHIP 1/10W 820	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R851	ERDS2TJ223	C.RESISTOR 1/4W 22K	1	
R852	ERDS2TJ390	C.RESISTOR 1/4W 39	1	
R853	ERDS2TJ154	C.RESISTOR 1/4W 150K	1	
R854	ERDS2TJ222	C.RESISTOR 1/4W 2.2K	1	
R855	ERDS2TJ102	C.RESISTOR 1/4W 1K	1	
R856	ERDS2TJ103	C.RESISTOR 1/4W 10K	1	
R858	ERDS2TJ561	C.RESISTOR 1/4W 560	1	
R2001,02	ERJ6GMYJ102	CHIP 1/10W 1K	2	
R2004,05	ERJ6GMYJ223	CHIP 1/10W 22K	2	
R2006	ERJ6GMYOR00	M.RESISTOR CH1/10W 0.00	1	
R2007	ERJ6GMYJ332	CHIP 1/10W 3.3K	1	
R2008	ERJ6GMYJ102	CHIP 1/10W 1K	1	
R2009	ERJ6GMYJ393	CHIP 1/10W 39K	1	
R2010	ERJ6GMYJ103	CHIP 1/10W 10K	1	
R2011	ERJ6GMYJ152	CHIP 1/10W 1.5K	1	
R2012	ERJ6GMYJ221	CHIP 1/10W 220	1	
R2013	ERJ6GMYJ103	CHIP 1/10W 10K	1	
R2014	ERJ6GMYJ824	CHIP 1/10W 820K	1	
R2015,16	ERJ6GMYJ223	CHIP 1/10W 22K	2	
R2017	ERJ6GMYJ222	CHIP 1/10W 2.2K	1	
R2018	ERJ6GMYJ221	CHIP 1/10W 220	1	
R2019	ERJ6GMYJ124	CHIP 1/10W 120K	1	
R2020	ERJ6GMYJ821	CHIP 1/10W 820	1	
R2021	ERJ6GMYJ562	CHIP 1/10W 5.6K	1	
R2022	ERJ6GMYJ272	CHIP 1/10W 2.7K	1	
R2023	ERJ6GMYJ222	CHIP 1/10W 2.2K	1	
R2024	ERJ6GMYJ823	M.RESISTOR CH1/10W 82K	1	
R2025	ERJ6GMYG562	CHIP 1/10W 5.6K	1	
R2026	ERJ6GMYG392	M.RESISTOR CH1/10W 3.9K	1	
R2027	ERJ6GMYJ473	CHIP 1/10W 47K	1	
R2028	ERJ6GMYJ332	CHIP 1/10W 3.3K	1	
R2029	ERJ6GMYJ473	CHIP 1/10W 47K	1	
R2030	ERJ6GMYJ123	CHIP 1/10W 12K	1	
R2031	ERJ6GMYJ392	CHIP 1/10W 3.9K	1	
R2032	ERDS2TJ471	C.RESISTOR 1/4W 470	1	
R2034	ERJ6GMYJ104	CHIP 1/10W 100K	1	
R2037	ERJ6GMYJ103	CHIP 1/10W 10K	1	
R2038	ERJ6GMYJ102	CHIP 1/10W 1K	1	
R2040	ERJ6GMYJ471	CHIP 1/10W 470	1	
R2051	ERJ6GMYJ103	CHIP 1/10W 10K	1	
R2101-03	ERDS2TJ560	C.RESISTOR 1/4W 56	3	
R2104	ERX12SJR47	M.RESISTOR 1/2W 0.47	1	
R2105	ERJ6GMYJ102	CHIP 1/10W 1K	1	
R2106	ERJ6GMYG561	M.RESISTOR CH1/10W 560	1	
R2107	ERJ6GMYG562	CHIP 1/10W 5.6K	1	
R2108	ERJ6GMYG472	M.RESISTOR CH1/10W 4.7K	1	
R2109	ERJ6GMYJ330	CHIP 1/10W 33	1	
R2201	ERDS2TJ122	C.RESISTOR 1/4W 1.2K	1	
R2202-04	ERDS2TJ150	C.RESISTOR 1/4W 15	3	
R2205	ERX12SJR68	M.RESISTOR 1/2W 0.68	1	
R2405	ERJ6GMYJ562	CHIP 1/10W 5.6K	1	
R3001	ERJ6GMYJ103	CHIP 1/10W 10K	1	
R3002	ERJ6GMYJ682	CHIP 1/10W 6.8K	1	
R3003	ERJ6GMYJ472	CHIP 1/10W 4.7K	1	
R3019	ERDS2TJ471	C.RESISTOR 1/4W 470	1	
R3022,23	ERJ6GMYJ821	CHIP 1/10W 820	2	
R3028	ERJ6GMYJ102	CHIP 1/10W 1K	1	
R3029	ERJ6GMYJ272	CHIP 1/10W 2.7K	1	
R3030	ERJ6GMYJ750	CHIP 1/10W 75	1	
R3042	ERJ6GMYJ102	CHIP 1/10W 1K	1	
R3062	ERJ6GMYJ223	CHIP 1/10W 22K	1	
R3063	ERJ6GMYJ103	CHIP 1/10W 10K	1	
R3071	ERJ6GMYJ222	CHIP 1/10W 2.2K	1	
R3085	ERJ6GMYJ221	CHIP 1/10W 220	1	
R3086	ERJ6GMYJ103	CHIP 1/10W 10K	1	
R3087,88	ERJ6GMYJ104	CHIP 1/10W 100K	2	
R3094	ERJ6GMYOR00	M.RESISTOR CH1/10W 0.00	1	
R3095	ERJ6GMYJ102	CHIP 1/10W 1K	1	
R3096	ERDS2TJ102	C.RESISTOR 1/4W 1K	1	
R3101	ERJ6GMYJ102	CHIP 1/10W 1K	1	
R3102	ERJ6GMYJ152	CHIP 1/10W 1.5K	1	
R3103	ERJ6GMYJ392	CHIP 1/10W 3.9K	1	
R3104	ERJ6GMYJ152	CHIP 1/10W 1.5K	1	
R3105	ERJ6GMYJ561	CHIP 1/10W 560	1	
R3902-05	ERDS2TJ750	C.RESISTOR 1/4W 75	4	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R3908	ERDS2TJ104	C.RESISTOR 1/4W 100K	1	
R4001	ERJ6GMYJ100	CHIP 1/10W 10	1	
R4002	ERJ6GMYJ183	CHIP 1/10W 18K	1	
R4003	ERJ6GMYG223	M.RESISTOR CH1/10W 22K	1	
R4004	ERJ6GMYJ562	CHIP 1/10W 5.6K	1	
R4007	ERJ6GMYJ221	CHIP 1/10W 220	1	
R4008	ERJ6GMYJ122	CHIP 1/10W 1.2K	1	
R4010	ERJ6GMYJ683	CHIP 1/10W 68K	1	
R4012	ERJ6GMYJ331	CHIP 1/10W 330	1	
R4013	ERJ6GMYJ394	M.RESISTOR CH1/10W 390K	1	
R4014	ERJ6GMYG133	M.RESISTOR CH1/10W 13K	1	
R4016	ERJ6GMYJ105	CHIP 1/10W 1M	1	
R4017	ERJ6GMYJ302	M.RESISTOR CH1/10W 3K	1	
R4018	ERJ6GMYJ223	CHIP 1/10W 22K	1	
R4019	ERJ6GMYJ563	CHIP 1/10W 56K	1	
R4020	ERJ6GMYJ562	CHIP 1/10W 5.6K	1	
R4023	ERJ6GMYG473	CHIP 1/10W 47K	1	
R4024,25	ERJ6GMYG104	CHIP 1/10W 100K	2	
R4026	ERJ6GMYJ123	CHIP 1/10W 12K	1	
R4027	ERJ6GMYJ153	CHIP 1/10W 15K	1	
R4028	ERJ6GMYJ102	CHIP 1/10W 1K	1	
R4031	ERJ6GMYG272	M.RESISTOR CH1/10W 2.7K	1	
R4032	ERJ6GMYG622	M.RESISTOR CH1/10W 6.2K	1	
R4035	ERJ6GMYJ822	CHIP 1/10W 8.2K	1	
R4038	ERDS2TJ562	C.RESISTOR 1/4W 5.6K	1	
R4042	ERJ6GMYJ681	CHIP 1/10W 680	1	
R4044	ERJ6GMYG103	CHIP 1/10W 10K	1	
R4901	ERDS2TJ333	C.RESISTOR 1/4W 33K	1	
R4902	ERDS2TJ273	C.RESISTOR 1/4W 27K	1	
R6001-03	ERJ6GMYJ101	CHIP 1/10W 100	3	
R6004,05	ERJ6GMYJ333	CHIP 1/10W 33K	2	
R6006	ERJ6GMYJ332	CHIP 1/10W 3.3K	1	
R6007	ERJ6GMYJ122	CHIP 1/10W 1.2K	1	
R6008	ERJ6GMYJ561	CHIP 1/10W 560	1	
R6009	ERJ6GMYJ333	CHIP 1/10W 33K	1	
R6010	ERJ6GMYJ561	CHIP 1/10W 560	1	
R6011	ERJ6GMYJ333	CHIP 1/10W 33K	1	
R6012	ERJ6GMYJ222	CHIP 1/10W 2.2K	1	
R6013	ERJ6GMYJ683	CHIP 1/10W 68K	1	
R6014	ERJ6GMYJ473	CHIP 1/10W 47K	1	
R6015	ERJ6GMYJ101	CHIP 1/10W 100	1	
R6017	ERJ6GMYJ221	CHIP 1/10W 220	1	
R6018	ERJ6GMYJ131	CHIP 1/10W 130	1	
R6019	ERJ6GMYJ562	CHIP 1/10W 5.6K	1	
R6020	ERJ6GMYJ152	CHIP 1/10W 1.5K	1	
R6021	ERJ6GMYJ201	CHIP 1/10W 200	1	
R6022	ERG3SJ220	M.RESISTOR 3W 22	1	
R6023	ERJ6GMYJ471	CHIP 1/10W 470	1	
R6024	ERJ6GMYJ561	CHIP 1/10W 560	1	
R6025	ERJ6GMYJ391	CHIP 1/10W 390	1	
R6026	ERD2FCVG220	C.RESISTOR 2W 22	1	
R6028	ERJ6GMYJ103	CHIP 1/10W 10K	1	
R6029	ERDS2TJ152	C.RESISTOR 1/4W 1.5K	1	
R6030	ERJ6GMYJ751	M.RESISTOR CH1/10W 750	1	
R6031	ERJ6GMYJ222	CHIP 1/10W 2.2K	1	
R6032	ERJ6GMYJ223	CHIP 1/10W 22K	1	
R6033	ERJ6GMYJ824	CHIP 1/10W 820K	1	
R6034	ERJ6GMYJ105	CHIP 1/10W 1M	1	
R6036	ERJ6GMYJ221	CHIP 1/10W 220	1	
R6039	ERJ6GMYJ473	CHIP 1/10W 47K	1	
R6040	ERJ6GMYJ562	CHIP 1/10W 5.6K	1	
R6041	ERJ6GMYJ332	CHIP 1/10W 3.3K	1	
R6042,43	ERJ6GMYJ222	CHIP 1/10W 2.2K	2	
R6044,45	ERJ6GMYJ221	CHIP 1/10W 220	2	
R6047	ERDS1TJ332	C.RESISTOR 1/2W 3.3K	1	
R6048	ERJ6GMYJ681	CHIP 1/10W 680	1	
R6049	ERJ6GMYJ222	CHIP 1/10W 2.2K	1	
R6053	ERG2SJ471	M.RESISTOR 2W 470	1	
R6054	ERJ6GMYJ104	CHIP 1/10W 100K	1	
R6055	ERJ6GMYJ101	CHIP 1/10W 100	1	
R6056	ERJ6GMYJ473	CHIP 1/10W 47K	1	
R6057	ERJ6GMYJ222	CHIP 1/10W 2.2K	1	
R6059	ERJ6GMYJ102	CHIP 1/10W 1K	1	
R6060	ERJ6GMYJ104	CHIP 1/10W 100K	1	
R6101	ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C715-20	ECUM1H1032FN	C.CAPACITOR CH 50V 0.01U	6	
C721	ECEA1HKR27K	E.CAPACITOR 50V 0.27U	1	
C722	ECUM1H1032FN	C.CAPACITOR CH 50V 0.01U	1	
C723	ECUM1H180JCN	C.CAPACITOR CH 50V 18P	1	
C725	ECQV1H104J2	P.CAPACITOR 50V 0.1U	1	
C727	ECUM1H080DCN	C.CAPACITOR CH 50V 80P	1	
C728	ECUM1H1032FN	C.CAPACITOR CH 50V 0.01U	1	
C730	ECEA1CK100	E.CAPACITOR 16V 10U	1	
C731	ECEA1CKS100	E.CAPACITOR 16V 10U	1	
C732	ECQV1H224J2	P.CAPACITOR 50V 0.22U	1	
C734	ECUM1H1032FN	C.CAPACITOR CH 50V 0.01U	1	
C735	ECUM1H070DCN	C.CAPACITOR CH 50V 7P	1	
C736	ECQB1H103JH	P.CAPACITOR 50V 0.01U	1	
C737	ECUM1H151JCN	C.CAPACITOR CH 50V 150P	1	
C739	ECEA1HK010	E.CAPACITOR 50V 1U	1	
C740	ECUM1H1032FN	C.CAPACITOR CH 50V 0.01U	1	
C741	ECEA1CK100	E.CAPACITOR 16V 10U	1	
C742	ECUM1H030CCN	C.CAPACITOR CH 50V 3P	1	
C743	ECUM1H270RSN	C.CAPACITOR CH 50V 27P	1	
C744	ECEA1HKR47	E.CAPACITOR 50V 0.47U	1	
C745	ECUM1H680JCN	C.CAPACITOR CH 50V 68P	1	
C746	ECUM1H150JCN	C.CAPACITOR CH 50V 15P	1	
C748	ECEA1CK470U	E.CAPACITOR 16V 47U	1	
C749	ECEA1CK100	E.CAPACITOR 16V 10U	1	
C760	ECQV1H473J2	P.CAPACITOR 50V 0.047U	1	
C775	ECUM1H120JCN	C.CAPACITOR CH 50V 12P	1	
C781	ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C782	ECUM1H060DCN	C.CAPACITOR CH 50V 6P	1	
C790	ECUM1H1032FN	C.CAPACITOR CH 50V 0.01U	1	
C797,98	ECUM1H1032FN	C.CAPACITOR CH 50V 0.01U	2	
C814	ECEA1AK101	E.CAPACITOR 10V 100U	1	
C815	ECQV1H154J2	P.CAPACITOR 50V 0.15U	1	
C816	ECUM1E1042FN	C.CAPACITOR CH 25V 0.1U	1	
C817	ECQV1H124J2	P.CAPACITOR 50V 0.12U	1	
C818	ECUM1H471KBN	C.CAPACITOR CH 50V 470P	1	
C819	ECUM1H820JCN	C.CAPACITOR CH 50V 82P	1	
C820	ECEA1HKR22	E.CAPACITOR 50V 2.2U	1	
C821	ECEA1HFS4R7	E.CAPACITOR 50V 4.7U	1	
C823	ECEA1HKR22	E.CAPACITOR 50V 2.2U	1	
C824	ECEA1HK010	E.CAPACITOR 50V 1U	1	
C825	ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C826	ECEA1AU221	E.CAPACITOR 10V 220U	1	
C827	ECUM1H050DCN	C.CAPACITOR CH 50V 5P	1	
C828	ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C829	ECQV1H474J2	P.CAPACITOR 50V 0.47U	1	
C831,32	ECUM1E1042FN	C.CAPACITOR CH 25V 0.1U	2	
C833	ECUM1H471KBN	C.CAPACITOR CH 50V 470P	1	
C1001	ECEA1EK470	E.CAPACITOR 25V 47U	1	
C1003	ECEA0JK101U	E.CAPACITOR 6.3V 100U	1	
C1004	ECEA1CK470U	E.CAPACITOR 16V 47U	1	
C2001	ECEA0JK221	E.CAPACITOR 6.3V 220U	1	
C2002	ECUM1H1042FN	C.CAPACITOR CH 50V 0.1U	1	
C2003	ECQB1H472JH	P.CAPACITOR 50V 4700P	1	
C2004	ECUM1H1032FN	C.CAPACITOR CH 50V 0.01U	1	
C2005	ECQV1H394J2	P.CAPACITOR 50V 0.39U	1	
C2006	ECEA0JK470	E.CAPACITOR 6.3V 47U	1	
C2007	ECUM1H472KBN	C.CAPACITOR CH 50V 4700P	1	
C2008	ECEA1HK010	E.CAPACITOR 50V 1U	1	
C2009	ECEA1CKN100	E.CAPACITOR 16V 10U	1	
C2010	ECEA1HKR47	E.CAPACITOR 50V 0.47U	1	
C2011	ECUM1H562KBN	C.CAPACITOR CH 50V 5600P	1	
C2012	VCYD1E473KR	S.CAPACITOR 25V 0.047U	1	
C2013	ECEA1HKR47	E.CAPACITOR 50V 4.7U	1	
C2014	ECEA0JK221	E.CAPACITOR 6.3V 220U	1	
C2015	ECEA0JK101U	E.CAPACITOR 6.3V 100U	1	
C2016	VCYD1E223KR	S.CAPACITOR 25V 0.022U	1	
C2017	ECEA0JK221	E.CAPACITOR 6.3V 220U	1	
C2018	ECEA1CK100	E.CAPACITOR 16V 10U	1	
C2019	ECEA1HK2R2	E.CAPACITOR 50V 2.2U	1	
C2020	VCYD1E473KR	S.CAPACITOR 25V 0.047U	1	
C2022	ECEA1HK2R2	E.CAPACITOR 50V 2.2U	1	
C2024	ECQV1H104J2	P.CAPACITOR 50V 0.1U	1	
C2025	ECQV1H683J2	P.CAPACITOR 50V 0.068U	1	
C2026	ECQV1H224J2	P.CAPACITOR 50V 0.22U	1	
C2027	ECEA1HKR47	E.CAPACITOR 50V 0.47U	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C2028	ECQB1H333JH	P.CAPACITOR 50V 0.033U	1	
C2029	ECEA0JK470	E.CAPACITOR 6.3V 47U	1	
C2030	ECEA1CK100	E.CAPACITOR 16V 10U	1	
C2031	ECQV1H104J2	P.CAPACITOR 50V 0.1U	1	
C2033	ECUM1H1032FN	C.CAPACITOR CH 50V 0.01U	1	
C2034	ECEA0JK330	E.CAPACITOR 6.3V 33U	1	
C2050	ECEA0JK221	E.CAPACITOR 6.3V 220U	1	
C2101-03	ECQB1H333JH	P.CAPACITOR 50V 0.033U	3	
C2104-06	ECEA1HK2R2	E.CAPACITOR 50V 2.2U	3	
C2107,08	VCYD1E333KR	S.CAPACITOR 25V 0.033U	2	
C2111	ECEA1CK101	E.CAPACITOR 16V 100U	1	
C2115	ECEA1CK470U	E.CAPACITOR 16V 47U	1	
C2116	ECEA1EU221	E.CAPACITOR 25V 220U	1	
C2118	VCYD1E333KR	S.CAPACITOR 25V 0.033U	1	
C2121	ECQV1H184J2	P.CAPACITOR 50V 0.18U	1	
C2201	ECEA1CK100	E.CAPACITOR 16V 10U	1	
C2203	ECQV1H104J2	P.CAPACITOR 50V 0.1U	1	
C2204-06	ECEA1HK0R1	E.CAPACITOR 50V 0.1U	3	
C2207	ECQV1H104J2	P.CAPACITOR 50V 0.1U	1	
C2208-10	ECEA1VKN4R7	E.CAPACITOR 35V 4.7U	3	
C2211	ECQB1H473JH	P.CAPACITOR 50V 0.047U	1	
C2212	ECEA0JK101U	E.CAPACITOR 6.3V 100U	1	
C2213	ECEA1CK100	E.CAPACITOR 16V 10U	1	
C3001	ECEA1CK470U	E.CAPACITOR 16V 47U	1	
C3002	ECEA0JU471	E.CAPACITOR 6.3V 470U	1	
C3003,04	ECUM1H1032FN	C.CAPACITOR CH 50V 0.01U	2	
C3010	ECUM1H151JCN	C.CAPACITOR CH 50V 150P	1	
C3011	ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
C3012	ECUM1H681KBN	C.CAPACITOR CH 50V 680P	1	
C3013	ECEA1HK010	E.CAPACITOR 50V 1U	1	
C3014	ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
C3015	VCYD1E103KR	S.CAPACITOR 25V 0.01U	1	
C3016	ECEA0JK470	E.CAPACITOR 6.3V 47U	1	
C3017,18	ECUM1H1032FN	C.CAPACITOR CH 50V 0.01U	2	
C3019	ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C3053	ECEA0JK101U	E.CAPACITOR 6.3V 100U	1	
C3064	ECQB1H103JH	P.CAPACITOR 50V 0.01U	1	
C3065	ECUM1H1032FN	C.CAPACITOR CH 50V 0.01U	1	
C3067,68	ECUM1H1032FN	C.CAPACITOR CH 50V 0.01U	2	
C3070	ECUM1H1032FN	C.CAPACITOR CH 50V 0.01U	1	
C3071	ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C3076	ECUM1H180JCN	C.CAPACITOR CH 50V 18P	1	
C3081	ECEA1CK220	E.CAPACITOR 16V 22U	1	
C3101	ECEA0JK470	E.CAPACITOR 6.3V 47U	1	
C3102	ECEA1CK470U	E.CAPACITOR 16V 47U	1	
C3103,04	ECUM1H332KBN	C.CAPACITOR CH 50V 3300P	2	
C3105	ECEA1CK100	E.CAPACITOR 16V 10U	1	
C3901,02	ECEA1CK330U	E.CAPACITOR 16V 33U	2	
C3903	ECEA1HK010	E.CAPACITOR 50V 1U	1	
C3904-06	ECEA1CK470U	E.CAPACITOR 16V 47U	3	
C3907,08	ECEA1HK2R2	E.CAPACITOR 50V 2.2U	2	
C3909	ECEA1HKR47	E.CAPACITOR 50V 0.47U	1	
C3914	ECUM1H222KBN	C.CAPACITOR CH 50V 2200P	1	
C3916	ECUM1H471KBN	C.CAPACITOR CH 50V 470P	1	
C4001	ECQB1H153JH	P.CAPACITOR 50V 0.015U	1	
C4002	ECEA16M33	E.CAPACITOR 16V 33U	1	
C4003	ECKF1H1022F	C.CAPACITOR 50V 1000P	1	
C4004	ECQP1332J2	P.CAPACITOR 100V 3300P	1	
C4005	ECCD2H121K	C.CAPACITOR 500V 120P	1	
C4006	ECEA1CK470U	E.CAPACITOR 16V 47U	1	
C4007	ECEA1CK330U	E.CAPACITOR 16V 33U	1	
C4008	ECEA1HK010	E.CAPACITOR 50V 1U	1	
C4009	ECEA1EK4R7	E.CAPACITOR 25V 4.7U	1	
C4012	ECEA1CK100	E.CAPACITOR 16V 10U	1	
C4013	ECUM1H681JN	C.CAPACITOR CH 50V 680P	1	
C4015	ECEA16M10	E.CAPACITOR 16V 10U	1	
C4016	ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C4017	ECEA10W47	E.CAPACITOR 10V 47U	1	
C4018	ECQB1H822JH	P.CAPACITOR 50V 8200P	1	
C4019	ECEA1CKS100	E.CAPACITOR 16V 10U	1	
C4020	ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C4021	ECEA1AK101	E.CAPACITOR 10V 100U	1	
C4022	ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C4023	ECUM1H221JCN	C.CAPACITOR CH 50V 220P	1	
C4024,25	ECUM1H101JCN	C.CAPACITOR CH 50V 100P	2	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C4026	ECUM1H1042FN	C.CAPACITOR CH 50V 0.1U	1	
C4029	ECQB1H123JH	P.CAPACITOR 50V 0.012U	1	
C4033	ECQB1H102JH	P.CAPACITOR 50V 1000P	1	
C6001,02	ECEAOJK470	E.CAPACITOR 6.3V 47U	2	
C6005	ECEA1CK330U	E.CAPACITOR 16V 33U	1	
C6006	ECEAOJK330	E.CAPACITOR 6.3V 33U	1	
C6007	VCYD1C104MR1	S.CAPACITOR 16V 0.1U	1	
C6008	ECUM1H1032FN	C.CAPACITOR CH 50V 0.01U	1	
C6010	ECUM1H332KBN	C.CAPACITOR CH 50V 3300P	1	
C6011,12	ECUM1H271JCN	C.CAPACITOR CH 50V 270P	2	
C6013	ECKF1H1032F	C.CAPACITOR 50V 0.01U	1	
C6014	ECEA1CK220	E.CAPACITOR 16V 22U	1	
C6015	ECEA1CK330U	E.CAPACITOR 16V 33U	1	
C6021	ECUM1H332KBN	C.CAPACITOR CH 50V 3300P	1	
C6022	ECKF1H1032F	C.CAPACITOR 50V 0.01U	1	
C6025	ECUM1H1032FN	C.CAPACITOR CH 50V 0.01U	1	
C6028	ECKF1H332KB	C.CAPACITOR 50V 3300P	1	
C6029	ECKF1H1032F	C.CAPACITOR 50V 0.01U	1	
C6101	ECUM1H1032FN	C.CAPACITOR CH 50V 0.01U	1	
C6102	ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C6103	ECEAOJK470	E.CAPACITOR 6.3V 47U	1	
C6104	ECUM1H181JCN	C.CAPACITOR CH 50V 180P	1	
C6105	ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C6106	ECUM1H150JCN	C.CAPACITOR CH 50V 15P	1	
C7401	ECEAOJU221	E.CAPACITOR 6.3V 220U	1	
C7402	EECS5R5V473	E.CAPACITOR 5.5V 0.047	1	
C7404	ECKF1H2232F	C.CAPACITOR 50V 0.022U	1	
C7409	ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C7410	ECUM1H1032FN	C.CAPACITOR CH 50V 0.01U	1	
C7421	ECUM1H1032FN	C.CAPACITOR CH 50V 0.01U	1	
C7422	ECKF1H272KB	C.CAPACITOR 50V 2700P	1	
C7423	ECKF1H1032F	C.CAPACITOR 50V 0.01U	1	
C7651	ECEA1CKN100	E.CAPACITOR 16V 10U	1	
C7653	ECQB1H332JH	P.CAPACITOR 50V 3300P	1	
C7668	ECUM1H1032FN	C.CAPACITOR CH 50V 0.01U	1	
C7672	ECEA1HKS010	E.CAPACITOR 50V 1U	1	
D301	MA4091M	DIODE	1	
D710	MA3100L	DIODE	1	
D771	MA151WK	DIODE	1	
D772	MA165	DIODE	1	
D773	11ES1	DIODE	1	
D1001,02	MA165	DIODE	2	
D2003,04	MA165	DIODE	2	
D2007,08	MA165	DIODE	2	
D3001	MA165	DIODE	1	
D3009	MA165	DIODE	1	
D3101	MA165	DIODE	1	
D3102	MA27WA	DIODE	1	
D3901,02	MA165	DIODE	2	
D4003	MA165	DIODE	1	
D6001	MA4051	DIODE	1	
D6002-04	MA165	DIODE	3	
D6005	ERA15-01	DIODE	1	
D6006	MA165	DIODE	1	
D6008	MA723	DIODE	1	
D6009	MA4150L	DIODE	1	
D6021	MA723	DIODE	1	
D7401,02	MA723	DIODE	2	
D7672	MA3300H	DIODE	1	
DL802	EFDBR124A53T	DELAY	1	
FL301	ELB4M022	FILTER	1	
FL302	VLF0499	FILTER	1	
FL303	VLF0727	FILTER	1	
FL801	ELB4W002	FILTER	1	
FL3101	VLF0413	FILTER	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
IC301	VEFH03D	HIC	1	
IC303	MSM6965-3RS	IC	1	
IC701	MS1366SP	IC	1	
IC801	VEFH04F	IC	1	
IC2001	MN6740VCTK	IC	1	
IC2101	BA6435S	IC	1	
IC2201	AN3814K	IC	1	
IC3101	BA7004	IC	1	
IC3901	LA7150	IC	1	
IC4001	BA7766AS	IC	1	
IC6003	MN12821R	IC	1	
J701	VJRO231	PACK PIN	1	
J702,03	VJRO406	PACK PIN	2	
J704	VJRO231	PACK PIN	1	
L301	VLQEL05F101K	COIL 100UH	1	
L302	VLQEL05F220K	COIL 22UH	1	
L303,04	VLQEL05F101K	COIL 100UH	2	
L306	VLQEL05F101K	COIL 100UH	1	
L307	VLQEL05F151K	COIL 150UH	1	
L308	VLQEL05F270K	COIL 27UH	1	
L309,10	VLQEL05F101K	COIL 100UH	2	
L311	VLQEL05F2R2K	COIL 2.2UH	1	
L701,02	ELESP680KA	COIL 68UH	2	
L711	ELQTR68XB	COIL 0.68UH	1	
L712	VLQ0305J1R2	COIL 1.2UH	1	
L714	VLQ0305J1R2	COIL 1.2UH	1	
L715	VLQ0213K680	COIL 68UH	1	
L716	ELESP560KA	COIL 56UH	1	
L717,18	ELESP680KA	COIL 68UH	2	
L719	ELESP120KA	COIL 12UH	1	
L781	ELESP680KA	COIL 68UH	1	
L804	VLQ0213K150	COIL 15UH	1	
L805	VLQEL05F101K	COIL 100UH	1	
L806	VLQEL05F681K	COIL 680UH	1	
L808	VLQEL05F470K	COIL 47UH	1	
L809	VLQEL05F331K	COIL 330UH	1	
L810	VLQEL05F101K	COIL 100UH	1	
L811	VLQEL05F470K	COIL 47UH	1	
L812	VLQEL05F681K	COIL 680UH	1	
L2002	VLPO074	COIL	1	
L2003	VLQEL05F101K	COIL 100UH	1	
L2101	VLQEL05F102K	COIL 1000UH	1	
L3001-03	VLQEL05F101K	COIL 100UH	3	
L3005	VLQEL05F120K	COIL 12UH	1	
L3006	VLQEL05F68BK	COIL 6.8UH	1	
L3007	VLQEL05F101K	COIL 100UH	1	
L3008	VLQEL05F3R3K	COIL 3.3UH	1	
L3101	VLQEL05F101K	COIL 100UH	1	
L3901	VLQEL05F1R0K	COIL 1UH	1	
L3902	VLQEL05F2R7K	COIL 2.7UH	1	
L4001	VLQEL07F822J	COIL 8200UH	1	
L4002	VLQEL05F471K	COIL 470UH	1	
L6101	VLQEL05F101K	COIL 100UH	1	
L7401	VLQEL05F1R0K	COIL 1UH	1	
L7402	VLQEL05F101K	COIL 100UH	1	
L7404	VLQEL05F1R0K	COIL 1UH	1	
L7405	VLQEL05F101K	COIL 100UH	1	
PO01	VJS1237T	CONNECTOR	1	
PO06	VJS1902	CONNECTOR (FEMALE)	1	
P501	VJS1237T	CONNECTOR	1	
P1001	VJF0171T	CONNECTOR	1	
P1001	VJP1393T	CONNECTOR (MALE) 13P	1	
P1101	VJF0171T	CONNECTOR	1	
P2001	VJP1932T	CONNECTOR (MALE)	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
P2001	VJS1932T	CONNECTOR (FEMALE)	1	
P2201	VJP1237T	CONNECTOR (MALE) 10P	1	
P2201	VJS1237T	CONNECTOR	1	
P3001	VJP1237T	CONNECTOR (MALE) 10P	1	
P3001	VJS1237T	CONNECTOR	1	
P3902	VJS1469	CONNECTOR (FEMALE)	1	
P4001	VJP2622	CONNECTOR (MALE)	1	
P6001	VJS2571A012	CONNECTOR	1	
P6002	VJS2571A004	CONNECTOR	1	
P7401	VJS1662	CONNECTOR (FEMALE)	1	
P7402	VJS2571A015	CONNECTOR (FEMALE)	1	
PK2201	VJR0452	PACK PIN	1	
PK2202	VJR0348	PACK PIN	1	
PK3901	VJR0348	PACK PIN	1	
PK3902	VJR0523	PACK PIN	1	
PK3903	VJR0348	PACK PIN	1	
PK3904	VJR0416	PACK PIN	1	
PK6101	VJR0277	PACK PIN	1	
Q301	2SB709	TRANSISTOR CHIP	1 (Q,R,S)	
Q302,03	2SC2295	TRANSISTOR CHIP	2 (B,C)	
Q304	2SD601	TRANSISTOR CHIP	1 (Q,R,S)	
Q703	2SD601	TRANSISTOR	1 (S,T)	
Q710	2SC2377	TRANSISTOR	1 (C,D)	
Q712	2SD638	TRANSISTOR	1	
Q713	2SD1328	TRANSISTOR	1	
Q771	2SD601	TRANSISTOR CHIP	1	
Q804	2SB709	TRANSISTOR CHIP	1 (Q,R,S)	
Q2001	2SD601	TRANSISTOR CHIP	1 (Q,R,S)	
Q2002	2SD1330	TRANSISTOR	1 (S,T)	
Q3001	2SC2295	TRANSISTOR	1	
Q3003	2SD601	TRANSISTOR CHIP	1	
Q3004	2SB709	TRANSISTOR CHIP	1 (Q,R,S)	
Q3006	2SC2295	TRANSISTOR	1	
Q3007	2SB709	TRANSISTOR CHIP	1 (Q,R,S)	
Q3101	2SD601	TRANSISTOR CHIP	1	
Q4001	2SD602	TRANSISTOR	1 (R)	
Q6001	2SD893	TRANSISTOR	1	
Q6002,03	2SD973	TRANSISTOR	2 (S)	
Q6004	2SD638	TRANSISTOR	1	
Q6006	2SB643	TRANSISTOR	1	
Q6007	2SB710	TRANSISTOR	1 (R,S)	
Q6008	2SD1273	TRANSISTOR	1 (P,O)	
Q6010	2SD637	TRANSISTOR	1	
Q6011	2SB709	TRANSISTOR CHIP	1	
Q6101	2SC2206	TRANSISTOR	1 (B,C)	
QR701,02	UN2213	TRANSISTOR-RESISTOR	2	
QR711,12	UN2212	TRANSISTOR-RESISTOR	2	
QR714	UN2211	TRANSISTOR-RESISTOR	1	
QR1001	UN2213	TRANSISTOR-RESISTOR	1	
QR2002	DTC363EK	TRANSISTOR-RESISTOR	1	
QR2004	2SD1676	COMBINATION PARTS	1	
QR2005	UN2213	TRANSISTOR-RESISTOR	1	
QR3004	UN2111	TRANSISTOR-RESISTOR	1	
QR3008	UN2213	TRANSISTOR-RESISTOR	1	
QR4001	UN2213	TRANSISTOR-RESISTOR	1	
QR6002	UN2119	TRANSISTOR-RESISTOR	1	
QR6003	UN2113	TRANSISTOR-RESISTOR	1	
QR6004	UN2213	TRANSISTOR-RESISTOR	1	
QR6007	UN2212	TRANSISTOR-RESISTOR	1	
QR6011,12	UN2212	TRANSISTOR-RESISTOR	2	
QR7401	UN2211	TRANSISTOR-RESISTOR	1	
		RESISTORS		
R301	ERJ6GMYJ122	CHIP 1/10W 1.2K	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R302	ERJ6GMYJ391	CHIP 1/10W 390	1	
R303	ERJ6GMYJ103	CHIP 1/10W 10K	1	
R304	ERJ6GMYJ102	CHIP 1/10W 1K	1	
R305	ERJ6GMYJ824	CHIP 1/10W 820K	1	
R306	ERJ6GMYJ152	CHIP 1/10W 1.5K	1	
R307	ERJ6GMYJ102	CHIP 1/10W 1K	1	
R308	ERJ6GMYJ123	CHIP 1/10W 12K	1	
R309	ERJ6GMYJ272	CHIP 1/10W 2.7K	1	
R310	ERJ6GMYJ103	CHIP 1/10W 10K	1	
R311	ERJ6GMYJ272	CHIP 1/10W 2.7K	1	
R312	ERJ6GMYJ182	CHIP 1/10W 1.8K	1	
R317	ERJ6GMYJ471	CHIP 1/10W 470	1	
R320	ERJ6GMYJ102	CHIP 1/10W 1K	1	
R325	ERJ6GMYJ151	CHIP 1/10W 150	1	
R326	ERJ6GMYJ822	CHIP 1/10W 8.2K	1	
R327	ERJ6GMYJ332	CHIP 1/10W 3.3K	1	
R328	ERJ6GMYJ272	CHIP 1/10W 2.7K	1	
R329	ERJ6GMYJ103	CHIP 1/10W 10K	1	
R330	ERJ6GMYJ183	CHIP 1/10W 18K	1	
R331	ERJ6GMYJ561	CHIP 1/10W 560	1	
R332	ERJ6GMYJ222	CHIP 1/10W 2.2K	1	
R334,35	ERJ6GMYJ102	CHIP 1/10W 1K	2	
R338	ERJ6GMYJ124	CHIP 1/10W 120K	1	
R339	ERJ6GMYJ101	CHIP 1/10W 100	1	
R712	ERJ6GEYJ682	CHIP 1/10W 6.8K	1	
R713	ERJ6GEYJ681	CHIP 1/10W 680	1	
R714	ERD2FCG330	C.RESISTOR 2W 33	1	
R715	ERJ6GEYJ271	CHIP 1/10W 270	1	
R716	ERJ6GEYJ152	CHIP 1/10W 1.5K	1	
R717	ERJ6GEYJ332	CHIP 1/10W 3.3K	1	
R718	ERJ6GEYJ754	CHIP 1/10W 750K	1	
R719,20	ERJ6GEYJ682	CHIP 1/10W 6.8K	2	
R721	ERJ6GEYJ272	CHIP 1/10W 2.7K	1	
R722	ERJ6GEYJ332	CHIP 1/10W 3.3K	1	
R723	ERJ6GEYJ183	CHIP 1/10W 180K	1	
R724	ERDS2TJ101	C.RESISTOR 1/4W 100	1	
R725	ERJ6GEYJ182	CHIP 1/10W 1.8K	1	
R726	ERJ6GEYJ472	CHIP 1/10W 4.7K	1	
R727	ERJ6GEYJ471	CHIP 1/10W 470	1	
R728	ERDS2TJ471	C.RESISTOR 1/4W 470	1	
R729,30	ERJ6GEYJ331	CHIP 1/10W 330	2	
R737	ERJ6GEYJ274	CHIP 1/10W 270K	1	
R738	ERJ6GEYJ334	CHIP 1/10W 330K	1	
R739	ERJ6GEYJ681	CHIP 1/10W 680	1	
R740	ERJ6GEYJ473	CHIP 1/10W 47K	1	
R741	ERJ6GEYJ562	CHIP 1/10W 5.6K	1	
R743	ERJ6GEYJ470	CHIP 1/10W 47	1	
R744	ERJ6GEYJ821	CHIP 1/10W 820	1	
R745	ERJ6GEYJ331	CHIP 1/10W 330	1	
R746	ERDS2TJ181	C.RESISTOR 1/4W 180	1	
R747	ERJ6GEYJ471	CHIP 1/10W 470	1	
R750	ERJ6GEYJ182	CHIP 1/10W 1.8K	1	
R757	ERJ6GEYJ222	CHIP 1/10W 2.2K	1	
R758	ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R759	ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R763	ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R764	ERJ6GEYJ822	CHIP 1/10W 8.2K	1	
R772	ERJ6GEYJ271	CHIP 1/10W 270	1	
R773	ERJ6GEYJ124	CHIP 1/10W 120K	1	
R774	ERJ6GEYJ104	CHIP 1/10W 100K	1	
R781	ERJ6GEYJ271	CHIP 1/10W 270	1	
R782	ERJ6GEYJ821	CHIP 1/10W 820	1	
R792	ERDS2TJ120	C.RESISTOR 1/4W 12	1	
R795	ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R796	ERJ6GEYJ182	CHIP 1/10W 1.8K	1	
R815	ERJ6GMYJ103	CHIP 1/10W 10K	1	
R816	ERJ6GMYJ822	CHIP 1/10W 8.2K	1	
R818	ERJ6GMYJ102	CHIP 1/10W 1K	1	
R819	ERJ6GMYJ182	CHIP 1/10W 1.8K	1	
R820	ERJ6GMYJ222	CHIP 1/10W 2.2K	1	
R821	ERJ6GMYJ273	CHIP 1/10W 27K	1	
R822	ERJ6GMYJ183	CHIP 1/10W 18K	1	
R823	ERJ6GMYJ271	CHIP 1/10W 270	1	
R824	ERJ6GMYJ102	CHIP 1/10W 1K	1	
R825	ERJ6GMYJ182	CHIP 1/10W 1.8K	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R831	ERJ6GMYJ821	CHIP 1/10W 820	2	
R2001,02	ERJ6GMYJ102	CHIP 1/10W 1K	2	
R2004,05	ERJ6GMYJ223	CHIP 1/10W 22K	2	
R2006	ERJ6GMYOR00	M.RESISTOR CH1/10W 0.00	1	
R2007	ERJ6GMYJ332	CHIP 1/10W 3.3K	1	
R2008	ERJ6GMYJ102	CHIP 1/10W 1K	1	
R2009	ERJ6GMYJ393	CHIP 1/10W 39K	1	
R2010	ERJ6GMYJ103	CHIP 1/10W 10K	1	
R2011	ERJ6GMYJ152	CHIP 1/10W 1.5K	1	
R2012	ERJ6GMYJ221	CHIP 1/10W 220	1	
R2013	ERJ6GMYJ103	CHIP 1/10W 10K	1	
R2014	ERJ6GMYJ824	CHIP 1/10W 820K	1	
R2015,16	ERJ6GMYJ223	CHIP 1/10W 22K	2	
R2017	ERJ6GMYJ222	CHIP 1/10W 2.2K	1	
R2018	ERJ6GMYJ221	CHIP 1/10W 220	1	
R2019	ERJ6GMYJ124	CHIP 1/10W 120K	1	
R2020	ERJ6GMYJ821	CHIP 1/10W 820	1	
R2021	ERJ6GMYJ562	CHIP 1/10W 5.6K	1	
R2022	ERJ6GMYJ272	CHIP 1/10W 2.7K	1	
R2023	ERJ6GMYJ222	CHIP 1/10W 2.2K	1	
R2024	ERJ6GMYJ823	M.RESISTOR CH1/10W 82K	1	
R2025	ERJ6GMYG562	CHIP 1/10W 5.6K	1	
R2026	ERJ6GMYG392	M.RESISTOR CH1/10W 3.9K	1	
R2027	ERJ6GMYJ473	CHIP 1/10W 47K	1	
R2028	ERJ6GMYJ332	CHIP 1/10W 3.3K	1	
R2029	ERJ6GMYJ473	CHIP 1/10W 47K	1	
R2030	ERJ6GMYJ123	CHIP 1/10W 12K	1	
R2031	ERJ6GMYJ392	CHIP 1/10W 3.9K	1	
R2032	ERDS2TJ471	C.RESISTOR 1/4W 470	1	
R2034	ERJ6GMYJ104	CHIP 1/10W 100K	1	
R2037	ERJ6GMYJ103	CHIP 1/10W 10K	1	
R2038	ERJ6GMYJ102	CHIP 1/10W 1K	1	
R2040	ERJ6GMYJ471	CHIP 1/10W 470	1	
R2051	ERJ6GMYJ103	CHIP 1/10W 10K	1	
R2101-03	ERDS2TJ560	C.RESISTOR 1/4W 56	3	
R2104	ERX12SJR47	M.RESISTOR 1/2W 0.47	1	
R2105	ERJ6GMYJ102	CHIP 1/10W 1K	1	
R2106	ERJ6GMYG561	M.RESISTOR CH1/10W 560	1	
R2107	ERJ6GMYG562	CHIP 1/10W 5.6K	1	
R2108	ERJ6GMYG472	M.RESISTOR CH1/10W 4.7K	1	
R2109	ERJ6GMYJ330	CHIP 1/10W 33	1	
R2201	ERDS2TJ122	C.RESISTOR 1/4W 1.2K	1	
R2202-04	ERDS2TJ150	C.RESISTOR 1/4W 15	3	
R2205	ERX12SJR68	M.RESISTOR 1/2W 0.68	1	
R2405	ERJ6GMYJ562	CHIP 1/10W 5.6K	1	
R3001	ERJ6GMYJ103	CHIP 1/10W 10K	1	
R3002	ERJ6GMYJ682	CHIP 1/10W 6.8K	1	
R3003	ERJ6GMYJ472	CHIP 1/10W 4.7K	1	
R3019	ERDS2TJ471	C.RESISTOR 1/4W 470	1	
R3022,23	ERJ6GMYJ821	CHIP 1/10W 820	2	
R3028	ERJ6GMYJ102	CHIP 1/10W 1K	1	
R3029	ERJ6GMYJ272	CHIP 1/10W 2.7K	1	
R3030	ERJ6GMYJ750	CHIP 1/10W 75	1	
R3042	ERJ6GMYJ102	CHIP 1/10W 1K	1	
R3062	ERJ6GMYJ223	CHIP 1/10W 22K	1	
R3063	ERJ6GMYJ103	CHIP 1/10W 10K	1	
R3071	ERJ6GMYJ222	CHIP 1/10W 2.2K	1	
R3085	ERJ6GMYJ221	CHIP 1/10W 220	1	
R3086	ERJ6GMYJ103	CHIP 1/10W 10K	1	
R3087,88	ERJ6GMYJ104	CHIP 1/10W 100K	2	
R3094	ERJ6GMYOR00	M.RESISTOR CH1/10W 0.00	1	
R3095	ERJ6GMYJ102	CHIP 1/10W 1K	1	
R3096	ERDS2TJ102	C.RESISTOR 1/4W 1K	1	
R3101	ERJ6GMYJ102	CHIP 1/10W 1K	1	
R3102	ERJ6GMYJ152	CHIP 1/10W 1.5K	1	
R3103	ERJ6GMYJ392	CHIP 1/10W 3.9K	1	
R3104	ERJ6GMYJ152	CHIP 1/10W 1.5K	1	
R3105	ERJ6GMYJ561	CHIP 1/10W 560	1	
R3901	ERJ6GMYJ750	CHIP 1/10W 75	1	
R3902	ERDS2TJ750	C.RESISTOR 1/4W 75	1	
R3903,04	ERJ6GMYJ242	M.RESISTOR CH1/10W 2.4K	2	
R3905	ERJ6GMYOR00	M.RESISTOR CH1/10W 0.00	1	
R3906	ERJ6GMYJ273	CHIP 1/10W 27K	1	
R3908	ERJ6GMYJ333	CHIP 1/10W 33K	1	
R3909	ERJ6GMYJ750	CHIP 1/10W 75	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R3910	ERDS2TJ750	C.RESISTOR 1/4W 75	1	
R3912	ERJ6GMYJ223	CHIP 1/10W 22K	1	
R3913	ERJ6GMYJ123	CHIP 1/10W 12K	1	
R3916	ERDS2T0	C.RESISTOR 1/4W 0	1	
R4001	ERJ6GMYJ100	CHIP 1/10W 10	1	
R4002	ERJ6GMYJ183	CHIP 1/10W 18K	1	
R4003	ERJ6GMYG223	M.RESISTOR CH1/10W 22K	1	
R4004	ERJ6GMYJ562	CHIP 1/10W 5.6K	1	
R4007	ERJ6GMYJ221	CHIP 1/10W 220	1	
R4008	ERJ6GMYJ122	CHIP 1/10W 1.2K	1	
R4010	ERJ6GMYJ683	CHIP 1/10W 68K	1	
R4012	ERJ6GMYJ331	CHIP 1/10W 330	1	
R4013	ERJ6GMYJ394	M.RESISTOR CH1/10W 390K	1	
R4014	ERJ6GMYG133	M.RESISTOR CH1/10W 13K	1	
R4016	ERJ6GMYJ105	CHIP 1/10W 1M	1	
R4017	ERJ6GMYJ302	M.RESISTOR CH1/10W 3K	1	
R4018	ERJ6GMYJ223	CHIP 1/10W 22K	1	
R4019	ERJ6GMYJ563	CHIP 1/10W 56K	1	
R4020	ERJ6GMYJ562	CHIP 1/10W 5.6K	1	
R4023	ERJ6GMYG473	CHIP 1/10W 47K	1	
R4024,25	ERJ6GMYG104	CHIP 1/10W 100K	2	
R4026	ERJ6GMYJ123	CHIP 1/10W 12K	1	
R4027	ERJ6GMYJ153	CHIP 1/10W 15K	1	
R4028	ERJ6GMYJ102	CHIP 1/10W 1K	1	
R4031	ERJ6GMYG272	M.RESISTOR CH1/10W 2.7K	1	
R4032	ERJ6GMYG622	M.RESISTOR CH1/10W 6.2K	1	
R4035	ERJ6GMYJ822	CHIP 1/10W 8.2K	1	
R4038	ERDS2TJ562	C.RESISTOR 1/4W 5.6K	1	
R4042	ERJ6GMYJ681	CHIP 1/10W 680	1	
R4044	ERJ6GMYG103	CHIP 1/10W 10K	1	
R6001-03	ERJ6GMYJ101	CHIP 1/10W 100	3	
R6004,05	ERJ6GMYJ333	CHIP 1/10W 33K	2	
R6006	ERJ6GMYJ332	CHIP 1/10W 3.3K	1	
R6007	ERJ6GMYJ122	CHIP 1/10W 1.2K	1	
R6008	ERJ6GMYJ561	CHIP 1/10W 560	1	
R6009	ERJ6GMYJ333	CHIP 1/10W 33K	1	
R6010	ERJ6GMYJ561	CHIP 1/10W 560	1	
R6011	ERJ6GMYJ333	CHIP 1/10W 33K	1	
R6012	ERJ6GMYJ222	CHIP 1/10W 2.2K	1	
R6013	ERJ6GMYJ683	CHIP 1/10W 68K	1	
R6014	ERJ6GMYJ473	CHIP 1/10W 47K	1	
R6015	ERJ6GMYJ101	CHIP 1/10W 100	1	
R6017	ERJ6GMYJ221	CHIP 1/10W 220	1	
R6018	ERJ6GMYJ131	CHIP 1/10W 130	1	
R6019	ERJ6GMYJ562	CHIP 1/10W 5.6K	1	
R6020	ERJ6GMYJ152	CHIP 1/10W 1.5K	1	
R6021	ERJ6GMYJ201	CHIP 1/10W 200	1	
R6022	ERG3SJ220	M.RESISTOR 3W 22	1	
R6023	ERJ6GMYJ471	CHIP 1/10W 470	1	
R6024	ERJ6GMYJ561	CHIP 1/10W 560	1	
R6025	ERJ6GMYJ391	CHIP 1/10W 390	1	
R6026	ERD2FCVG220	C.RESISTOR 2W 22	1	
R6028	ERJ6GMYJ103	CHIP 1/10W 10K	1	
R6029	ERDS2TJ152	C.RESISTOR 1/4W 1.5K	1	
R6039	ERJ6GMYJ473	CHIP 1/10W 47K	1	
R6040	ERJ6GMYJ562	CHIP 1/10W 5.6K	1	
R6041	ERJ6GMYJ332	CHIP 1/10W 3.3K	1	
R6042,43	ERJ6GMYJ222	CHIP 1/10W 2.2K	2	
R6044,45	ERJ6GMYJ221	CHIP 1/10W 220	2	
R6047	ERDS1TJ332	C.RESISTOR 1/2W 3.3K	1	
R6048	ERJ6GMYJ681	CHIP 1/10W 680	1	
R6049	ERJ6GMYJ222	CHIP 1/10W 2.2K	1	
R6053	ERG2SJ471	M.RESISTOR 2W 470	1	
R6054	ERJ6GMYJ104	CHIP 1/10W 100K	1	
R6055	ERJ6GMYJ101	CHIP 1/10W 100	1	
R6056	ERJ6GMYJ473	CHIP 1/10W 47K	1	
R6057	ERJ6GMYJ222	CHIP 1/10W 2.2K	1	
R6059	ERJ6GMYJ102	CHIP 1/10W 1K	1	
R6060	ERJ6GMYJ104	CHIP 1/10W 100K	1	
R6062	ERJ6GMYJ392	CHIP 1/10W 3.9K	1	
R6101	ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R6102	ERJ6GEYJ333	CHIP 1/10W 33K	1	
R6103,04	ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	2	
R7401	ERDS2TJ103	C.RESISTOR 1/4W 10K	1	
R7402	ERJ6GMYJ181	CHIP 1/10W 180	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C819	ECUM1H820JCN	C. CAPACITOR CH 50V 82P	1	
C820	ECEA1HK2R2	E. CAPACITOR 50V 2.2U	1	
C821	ECEA1HFS4R7	E. CAPACITOR 50V 4.7U	1	
C823	ECEA1HK2R2	E. CAPACITOR 50V 2.2U	1	
C824	ECEA1HK010	E. CAPACITOR 50V 1U	1	
C825	ECUM1H101JCN	C. CAPACITOR CH 50V 100P	1	
C826	ECEA1AU221	E. CAPACITOR 10V 220U	1	
C827	ECUM1H050DCN	C. CAPACITOR CH 50V 5P	1	
C828	ECUM1H102KBN	C. CAPACITOR CH 50V 1000P	1	
C829	ECQV1H474JZ	P. CAPACITOR 50V 0.47U	1	
C831,32	ECUM1E1042FN	C. CAPACITOR CH 25V 0.1U	2	
C833	ECUM1H471KBN	C. CAPACITOR CH 50V 470P	1	
C1001	ECEA1EK470	E. CAPACITOR 25V 47U	1	
C1003	ECEA0JK101U	E. CAPACITOR 6.3V 100U	1	
C1004	ECEA1CK470U	E. CAPACITOR 16V 47U	1	
C2001	ECEA0JK221	E. CAPACITOR 6.3V 220U	1	
C2002	ECUM1H1042FN	C. CAPACITOR CH 50V 0.1U	1	
C2003	ECQB1H472JH	P. CAPACITOR 50V 4700P	1	
C2004	ECUM1H1032FN	C. CAPACITOR CH 50V 0.01U	1	
C2005	ECQV1H394JZ	P. CAPACITOR 50V 0.39U	1	
C2006	ECEA0JK470	E. CAPACITOR 6.3V 47U	1	
C2007	ECUM1H472KBN	C. CAPACITOR CH 50V 4700P	1	
C2008	ECEA1HK010	E. CAPACITOR 50V 1U	1	
C2009	ECEA1CKN100	E. CAPACITOR 16V 10U	1	
C2010	ECEA1HKK47	E. CAPACITOR 50V 0.47U	1	
C2011	ECUM1H562KBN	C. CAPACITOR CH 50V 5600P	1	
C2012	VCYD1E473KR	S. CAPACITOR 25V 0.047U	1	
C2013	ECEA1HK4R7	E. CAPACITOR 50V 4.7U	1	
C2014	ECEA0JK221	E. CAPACITOR 6.3V 220U	1	
C2015	ECEA0JK101U	E. CAPACITOR 6.3V 100U	1	
C2016	VCYD1E223KR	S. CAPACITOR 25V 0.022U	1	
C2017	ECEA0JK221	E. CAPACITOR 6.3V 220U	1	
C2018	ECEA1CK100	E. CAPACITOR 16V 10U	1	
C2019	ECEA1HKN2R2	E. CAPACITOR 50V 2.2U	1	
C2020	VCYD1E473KR	S. CAPACITOR 25V 0.047U	1	
C2022	ECEA1HKN2R2	E. CAPACITOR 50V 2.2U	1	
C2024	ECQV1H104JZ	P. CAPACITOR 50V 0.1U	1	
C2025	ECQV1H683JZ	P. CAPACITOR 50V 0.068U	1	
C2026	ECQV1H224JZ	P. CAPACITOR 50V 0.22U	1	
C2027	ECEA1HKK47	E. CAPACITOR 50V 0.47U	1	
C2028	ECQB1H333JH	P. CAPACITOR 50V 0.033U	1	
C2029	ECEA0JK470	E. CAPACITOR 6.3V 47U	1	
C2030	ECEA1CK100	E. CAPACITOR 16V 10U	1	
C2031	ECQV1H104JZ	P. CAPACITOR 50V 0.1U	1	
C2033	ECUM1H1032FN	C. CAPACITOR CH 50V 0.01U	1	
C2034	ECEA0JK330	E. CAPACITOR 6.3V 33U	1	
C2050	ECEA0JK221	E. CAPACITOR 6.3V 220U	1	
C2101-03	ECQB1H333JH	P. CAPACITOR 50V 0.033U	3	
C2104-06	ECEA1HK2R2	E. CAPACITOR 50V 2.2U	3	
C2107,08	VCYD1E333KR	S. CAPACITOR 25V 0.033U	2	
C2111	ECEA1CK101	E. CAPACITOR 16V 100U	1	
C2115	ECEA1CK470U	E. CAPACITOR 16V 47U	1	
C2116	ECEA1EU221	E. CAPACITOR 25V 220U	1	
C2118	VCYD1E333KR	S. CAPACITOR 25V 0.033U	1	
C2121	ECQV1H184JZ	P. CAPACITOR 50V 0.18U	1	
C2201	ECEA1CK100	E. CAPACITOR 16V 10U	1	
C2203	ECQV1H104JZ	P. CAPACITOR 50V 0.1U	1	
C2204-06	ECEA1HK0R1	E. CAPACITOR 50V 0.1U	3	
C2207	ECQV1H104JZ	P. CAPACITOR 50V 0.1U	1	
C2208-10	ECEA1VK94R7	E. CAPACITOR 35V 4.7U	3	
C2211	ECQB1H473JH	P. CAPACITOR 50V 0.047U	1	
C2212	ECEA0JK101U	E. CAPACITOR 6.3V 100U	1	
C2213	ECEA1CK100	E. CAPACITOR 16V 10U	1	
C3001	ECEA1CK470U	E. CAPACITOR 16V 47U	1	
C3002	ECEA0JU471	E. CAPACITOR 6.3V 470U	1	
C3003,04	ECUM1H1032FN	C. CAPACITOR CH 50V 0.01U	2	
C3010	ECUM1H151JCN	C. CAPACITOR CH 50V 150P	1	
C3011	ECUM1H330JCN	C. CAPACITOR CH 50V 33P	1	
C3012	ECUM1H681KBN	C. CAPACITOR CH 50V 680P	1	
C3013	ECEA1HKN010	E. CAPACITOR 50V 1U	1	
C3014	ECUM1H330JCN	C. CAPACITOR CH 50V 33P	1	
C3015	VCYD1E103KR	S. CAPACITOR 25V 0.01U	1	
C3016	ECEA0JK470	E. CAPACITOR 6.3V 47U	1	
C3017,18	ECUM1H1032FN	C. CAPACITOR CH 50V 0.01U	2	
C3019	ECUM1H220JCN	C. CAPACITOR CH 50V 22P	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C3053	ECEA0JK101U	E. CAPACITOR 6.3V 100U	1	
C3064	ECQB1H103JH	P. CAPACITOR 50V 0.01U	1	
C3065	ECUM1H1032FN	C. CAPACITOR CH 50V 0.01U	1	
C3067,68	ECUM1H1032FN	C. CAPACITOR CH 50V 0.01U	2	
C3070	ECUM1H1032FN	C. CAPACITOR CH 50V 0.01U	1	
C3071	ECUM1H102KBN	C. CAPACITOR CH 50V 1000P	1	
C3076	ECUM1H180JCN	C. CAPACITOR CH 50V 18P	1	
C3081	ECEA1CK220	E. CAPACITOR 16V 22U	1	
C3101	ECEA0JK470	E. CAPACITOR 6.3V 47U	1	
C3102	ECEA1CK470U	E. CAPACITOR 16V 47U	1	
C3103,04	ECUM1H332KBN	C. CAPACITOR CH 50V 3300P	2	
C3105	ECEA1CK100	E. CAPACITOR 16V 10U	1	
C3901,02	ECEA1CK330U	E. CAPACITOR 16V 33U	2	
C3903	ECEA1HK010	E. CAPACITOR 50V 1U	1	
C3904-06	ECEA1CK470U	E. CAPACITOR 16V 47U	3	
C3907,08	ECEA1HK2R2	E. CAPACITOR 50V 2.2U	2	
C3909	ECEA1HKK47	E. CAPACITOR 50V 0.47U	1	
C3914	ECUM1H222KBN	C. CAPACITOR CH 50V 2200P	1	
C3916	ECUM1H471KBN	C. CAPACITOR CH 50V 470P	1	
C4001	ECQB1H153JH	P. CAPACITOR 50V 0.015U	1	
C4002	ECEA16M33	E. CAPACITOR 16V 33U	1	
C4003	ECKF1H1022F	C. CAPACITOR 50V 1000P	1	
C4004	ECQP1332JZ	P. CAPACITOR 100V 3300P	1	
C4005	ECCD2H121K	C. CAPACITOR 500V 120P	1	
C4006	ECEA1CK470U	E. CAPACITOR 16V 47U	1	
C4007	ECEA1CK330U	E. CAPACITOR 16V 33U	1	
C4008	ECEA1HK010	E. CAPACITOR 50V 1U	1	
C4009	ECEA1EK4R7	E. CAPACITOR 25V 4.7U	1	
C4012	ECEA1CK100	E. CAPACITOR 16V 10U	1	
C4013	ECUM1H681JN	C. CAPACITOR CH 50V 680P	1	
C4015	ECEA16M10	E. CAPACITOR 16V 10U	1	
C4016	ECUM1H102KBN	C. CAPACITOR CH 50V 1000P	1	
C4017	ECEA10M47	E. CAPACITOR 10V 47U	1	
C4018	ECQB1H822JH	P. CAPACITOR 50V 8200P	1	
C4019	ECEA1CKS100	E. CAPACITOR 16V 10U	1	
C4020	ECUM1H102KBN	C. CAPACITOR CH 50V 1000P	1	
C4021	ECEA1AK101	E. CAPACITOR 10V 100U	1	
C4022	ECUM1H102KBN	C. CAPACITOR CH 50V 1000P	1	
C4023	ECUM1H221JCN	C. CAPACITOR CH 50V 220P	1	
C4024,25	ECUM1H101JCN	C. CAPACITOR CH 50V 100P	2	
C4026	ECUM1H1042FN	C. CAPACITOR CH 50V 0.1U	1	
C4029	ECQB1H123JH	P. CAPACITOR 50V 0.012U	1	
C4033	ECQB1H102JH	P. CAPACITOR 50V 1000P	1	
C6001,02	ECEA0JK470	E. CAPACITOR 6.3V 47U	2	
C6005	ECEA1CK330U	E. CAPACITOR 16V 33U	1	
C6006	ECEA0JK330	E. CAPACITOR 6.3V 33U	1	
C6007	VCYD1C104MR1	S. CAPACITOR 16V 0.1U	1	
C6008	ECUM1H1032FN	C. CAPACITOR CH 50V 0.01U	1	
C6010	ECUM1H332KBN	C. CAPACITOR CH 50V 3300P	1	
C6011,12	ECUM1H271JCN	C. CAPACITOR CH 50V 270P	2	
C6013	ECKF1H1032F	C. CAPACITOR 50V 0.01U	1	
C6014	ECEA1CK220	E. CAPACITOR 16V 22U	1	
C6015	ECEA1CK330U	E. CAPACITOR 16V 33U	1	
C6021	ECUM1H332KBN	C. CAPACITOR CH 50V 3300P	1	
C6022	ECKF1H1032F	C. CAPACITOR 50V 0.01U	1	
C6025	ECUM1H1032FN	C. CAPACITOR CH 50V 0.01U	1	
C6028	ECKF1H332KB	C. CAPACITOR 50V 3300P	1	
C6029	ECKF1H1032F	C. CAPACITOR 50V 0.01U	1	
C6101	ECUM1H1032FN	C. CAPACITOR CH 50V 0.01U	1	
C6102	ECQV1H104JZ	P. CAPACITOR 50V 0.1U	1	
C6103	ECEA0JK470	E. CAPACITOR 6.3V 47U	1	
C6104	ECUM1H181JCN	C. CAPACITOR CH 50V 180P	1	
C6105	ECUM1H101JCN	C. CAPACITOR CH 50V 100P	1	
C6106	ECUM1H150JCN	C. CAPACITOR CH 50V 15P	1	
C7401	ECEA0JU221	E. CAPACITOR 6.3V 220U	1	
C7402	EECS5R5V473	E. CAPACITOR 5.5V 0.047	1	
C7404	ECKF1H2232F	C. CAPACITOR 50V 0.022U	1	
C7409	ECQV1H104JZ	P. CAPACITOR 50V 0.1U	1	
C7410	ECUM1H1032FN	C. CAPACITOR CH 50V 0.01U	1	
C7421	ECUM1H1032FN	C. CAPACITOR CH 50V 0.01U	1	
C7422	ECKF1H272KB	C. CAPACITOR 50V 2700P	1	
C7423	ECKF1H1032F	C. CAPACITOR 50V 0.01U	1	
C7651	ECEA1CKN100	E. CAPACITOR 16V 10U	1	
C7653	ECQB1H332JH	P. CAPACITOR 50V 3300P	1	
C7668	ECUM1H1032FN	C. CAPACITOR CH 50V 0.01U	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C7672	ECEA1HKS010	E.CAPACITOR 50V 1U	1	
C7801	ECQB1H102JH	P.CAPACITOR 50V 1000P	1	
C7802	ECQB1H471JH	P.CAPACITOR 50V 470P	1	
C7803	ECQB1H472JH	P.CAPACITOR 50V 4700P	1	
C7804	ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C7805	ECQB1H103JH	P.CAPACITOR 50V 0.01U	1	
C7806	ECQB1H333JH	P.CAPACITOR 50V 0.033U	1	
C7815	VCYD1C104MR1	S.CAPACITOR 16V 0.1U	1	
C7816	ECEA0JKA331	E.CAPACITOR 6.3V 330U	1	
C7851	ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C7852	ECEA1AK101	E.CAPACITOR 10V 100U	1	
C7853,54	ECCF1H330JC	C.CAPACITOR 50V 33P	2	
C7855,56	ECEA1HK010	E.CAPACITOR 50V 1U	2	
C7860	ECEA0JK101U	E.CAPACITOR 6.3V 100U	1	
D301	MA4091M	DIODE	1	
D710	MA3100L	DIODE	1	
D771	MA151WK	DIODE	1	
D772	MA165	DIODE	1	
D773	11ES1	DIODE	1	
D1001,02	MA165	DIODE	2	
D2003,04	MA165	DIODE	2	
D2007,08	MA165	DIODE	2	
D3001	MA165	DIODE	1	
D3009	MA165	DIODE	1	
D3101	MA165	DIODE	1	
D3102	MA27WA	DIODE	1	
D3901,02	MA165	DIODE	2	
D4003	MA165	DIODE	1	
D6001	MA4051	DIODE	1	
D6002-04	MA165	DIODE	3	
D6005	ERA15-01	DIODE	1	
D6006	MA165	DIODE	1	
D6006	MA723	DIODE	1	
D6009	MA4150L	DIODE	1	
D6021	MA723	DIODE	1	
D7401,02	MA723	DIODE	2	
D7672	MA3300H	DIODE	1	
D7851	MA165	DIODE	1	
DL802	EFDBR124A53T	DELAY	1	
FL301	ELB4M022	FILTER	1	
FL302	VLFO499	FILTER	1	
FL303	VLFO727	FILTER	1	
FL801	ELB4M002	FILTER	1	
FL3101	VLFO413	FILTER	1	
IC301	VEFH03D	HIC	1	
IC303	MSM6965-3RS	IC	1	
IC701	M51366SP	IC	1	
IC801	VEFH04F	IC	1	
IC2001	MN6740VCTK	IC	1	
IC2101	BA6435S	IC	1	
IC2201	AN3814K	IC	1	
IC3101	BA7004	IC	1	
IC3901	LA7150	IC	1	
IC4001	BA7766AS	IC	1	
IC6003	MN12821R	IC	1	
IC7801	SAA4700	IC	1	
IC7851	MN158413VHW	IC	1	
IC7852	MN1280S	IC	1	
J701	VJRO231	PACK PIN	1	
J702,03	VJRO406	PACK PIN	2	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
J704	VJRO231	PACK PIN	1	
L301	VLQEL05F101K	COIL 100UH	1	
L302	VLQEL05F220K	COIL 22UH	1	
L303,04	VLQEL05F101K	COIL 100UH	2	
L306	VLQEL05F101K	COIL 100UH	1	
L307	VLQEL05F151K	COIL 150UH	1	
L308	VLQEL05F270K	COIL 27UH	1	
L309,10	VLQEL05F101K	COIL 100UH	2	
L311	VLQEL05F2R2K	COIL 2.2UH	1	
L701,02	ELESP680KA	COIL 68UH	2	
L711	ELQTR68XB	COIL 0.68UH	1	
L712	VLQ0305J1R2	COIL 1.2UH	1	
L714	VLQ0305J1R2	COIL 1.2UH	1	
L715	VLQ0213K680	COIL 68UH	1	
L716	ELESP560KA	COIL 56UH	1	
L717,18	ELESP680KA	COIL 68UH	2	
L719	ELESP120KA	COIL 12UH	1	
L781	ELESP680KA	COIL 68UH	1	
L804	VLQ0213K150	COIL 15UH	1	
L805	VLQEL05F101K	COIL 100UH	1	
L806	VLQEL05F681K	COIL 680UH	1	
L808	VLQEL05F470K	COIL 47UH	1	
L809	VLQEL05F331K	COIL 330UH	1	
L810	VLQEL05F101K	COIL 100UH	1	
L811	VLQEL05F470K	COIL 47UH	1	
L812	VLQEL05F681K	COIL 680UH	1	
L2002	VLPO074	COIL	1	
L2003	VLQEL05F101K	COIL 100UH	1	
L2101	VLQEL05F102K	COIL 1000UH	1	
L3001-03	VLQEL05F101K	COIL 100UH	3	
L3005	VLQEL05F120K	COIL 12UH	1	
L3006	VLQEL05F688K	COIL 6.8UH	1	
L3007	VLQEL05F101K	COIL 100UH	1	
L3008	VLQEL05F3R3K	COIL 3.3UH	1	
L3101	VLQEL05F101K	COIL 100UH	1	
L3901	VLQEL05F1R0K	COIL 1UH	1	
L3902	VLQEL05F2R7K	COIL 2.7UH	1	
LA001	VLQEL07F822J	COIL 8200UH	1	
LA002	VLQEL05F471K	COIL 470UH	1	
LA6101	VLQEL05F101K	COIL 100UH	1	
L7401	VLQEL05F1R0K	COIL 1UH	1	
L7402	VLQEL05F101K	COIL 100UH	1	
L7404	VLQEL05F1R0K	COIL 1UH	1	
L7405	VLQEL05F101K	COIL 100UH	1	
PO01	VJS1237T	CONNECTOR	1	
PO06	VJS1902	CONNECTOR (FEMALE)	1	
P501	VJS1237T	CONNECTOR	1	
P1001	VJF0171T	CONNECTOR	1	
P1001	VJP1393T	CONNECTOR (MALE) 13P	1	
P1101	VJF0171T	CONNECTOR	1	
P2001	VJP1932T	CONNECTOR (MALE)	1	
P2001	VJS1932T	CONNECTOR (FEMALE)	1	
P2201	VJP1237T	CONNECTOR (MALE) 10P	1	
P2201	VJS1237T	CONNECTOR	1	
P3001	VJP1237T	CONNECTOR (MALE) 10P	1	
P3001	VJS1237T	CONNECTOR	1	
P3902	VJS1469	CONNECTOR (FEMALE)	1	
P4001	VJP2622	CONNECTOR (MALE)	1	
P6001	VJS2571A012	CONNECTOR	1	
P6002	VJS2571A004	CONNECTOR	1	
P7401	VJS1662	CONNECTOR (FEMALE)	1	
P7402	VJS2571A015	CONNECTOR (FEMALE)	1	
PK1	VJRO189	PACK PIN	1	
PK2201	VJRO452	PACK PIN	1	
PK2202	VJRO348	PACK PIN	1	
PK3901	VJRO348	PACK PIN	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks	Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
PK3902	VJR0523	PACK PIN	1		R327	ERJ6GMYJ332	CHIP 1/10W 3.3K	1	
PK3903	VJR0348	PACK PIN	1		R328	ERJ6GMYJ272	CHIP 1/10W 2.7K	1	
PK3904	VJR0416	PACK PIN	1		R329	ERJ6GMYJ103	CHIP 1/10W 10K	1	
PK6101	VJR0277	PACK PIN	1		R330	ERJ6GMYJ183	CHIP 1/10W 18K	1	
					R331	ERJ6GMYJ561	CHIP 1/10W 560	1	
					R332	ERJ6GMYJ222	CHIP 1/10W 2.2K	1	
					R334, 35	ERJ6GMYJ102	CHIP 1/10W 1K	2	
Q301	2SB709	TRANSISTOR CHIP	1	(Q,R,S)	R338	ERJ6GMYJ124	CHIP 1/10W 120K	1	
Q302,03	2SC2295	TRANSISTOR CHIP	2	(B,C)	R339	ERJ6GMYJ101	CHIP 1/10W 100	1	
Q304	2SD601	TRANSISTOR CHIP	1	(Q,R,S)	R712	ERJ6GEYJ682	CHIP 1/10W 6.8K	1	
Q703	2SD601	TRANSISTOR	1	(S,T)	R713	ERJ6GEYJ681	CHIP 1/10W 680	1	
Q710	2SC2377	TRANSISTOR	1	(C,D)	R714	ERD2FCG330	C.RESISTOR 2W 33	1	
Q712	2SD638	TRANSISTOR	1		R715	ERJ6GEYJ271	CHIP 1/10W 270	1	
Q713	2SD1328	TRANSISTOR	1		R716	ERJ6GEYJ152	CHIP 1/10W 1.5K	1	
Q771	2SD601	TRANSISTOR CHIP	1		R717	ERJ6GEYJ332	CHIP 1/10W 3.3K	1	
Q804	2SB709	TRANSISTOR CHIP	1	(Q,R,S)	R718	ERJ6GEYJ754	CHIP 1/10W 750K	1	
Q2001	2SD601	TRANSISTOR CHIP	1	(Q,R,S)	R719,20	ERJ6GEYJ682	CHIP 1/10W 6.8K	2	
Q2002	2SD1330	TRANSISTOR	1	(S,T)	R721	ERJ6GEYJ272	CHIP 1/10W 2.7K	1	
Q3001	2SC2295	TRANSISTOR	1		R722	ERJ6GEYJ332	CHIP 1/10W 3.3K	1	
Q3003	2SD601	TRANSISTOR CHIP	1		R723	ERJ6GEYJ183	CHIP 1/10W 180K	1	
Q3004	2SB709	TRANSISTOR CHIP	1	(Q,R,S)	R724	ERDS2TJ101	C.RESISTOR 1/4W 100	1	
Q3006	2SC2295	TRANSISTOR	1		R725	ERJ6GEYJ182	CHIP 1/10W 1.8K	1	
Q3007	2SB709	TRANSISTOR CHIP	1	(Q,R,S)	R726	ERJ6GEYJ472	CHIP 1/10W 4.7K	1	
Q3101	2SD601	TRANSISTOR CHIP	1		R727	ERJ6GEYJ471	CHIP 1/10W 470	1	
Q4001	2SD602	TRANSISTOR	1	(R)	R728	ERDS2TJ471	C.RESISTOR 1/4W 470	1	
Q6001	2SD893	TRANSISTOR	1		R729,30	ERJ6GEYJ331	CHIP 1/10W 330	2	
Q6002,03	2SD973	TRANSISTOR	2	(S)	R737	ERJ6GEYJ274	CHIP 1/10W 270K	1	
Q6004	2SD638	TRANSISTOR	1		R738	ERJ6GEYJ334	CHIP 1/10W 330K	1	
Q6006	2SB643	TRANSISTOR	1		R739	ERJ6GEYJ681	CHIP 1/10W 680	1	
Q6007	2SB710	TRANSISTOR	1	(R,S)	R740	ERJ6GEYJ473	CHIP 1/10W 47K	1	
Q6008	2SD1273	TRANSISTOR	1	(P,O)	R741	ERJ6GEYJ562	CHIP 1/10W 5.6K	1	
Q6010	2SD637	TRANSISTOR	1		R743	ERJ6GEYJ470	CHIP 1/10W 47	1	
Q6011	2SB709	TRANSISTOR CHIP	1		R744	ERJ6GEYJ821	CHIP 1/10W 820	1	
Q6101	2SC2206	TRANSISTOR	1	(B,C)	R745	ERJ6GEYJ331	CHIP 1/10W 330	1	
					R746	ERDS2TJ181	C.RESISTOR 1/4W 180	1	
					R747	ERJ6GEYJ471	CHIP 1/10W 470	1	
					R750	ERJ6GEYJ182	CHIP 1/10W 1.8K	1	
QR701,02	UN2213	TRANSISTOR-RESISTOR	2		R757	ERJ6GEYJ222	CHIP 1/10W 2.2K	1	
QR711,12	UN2212	TRANSISTOR-RESISTOR	2		R758	ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
QR714	UN2211	TRANSISTOR-RESISTOR	1		R759	ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
QR1001	UN2213	TRANSISTOR-RESISTOR	1		R763	ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
QR2002	DTC363EK	TRANSISTOR-RESISTOR	1		R764	ERJ6GEYJ822	CHIP 1/10W 8.2K	1	
QR2004	2SD1676	COMBINATION PARTS	1		R772	ERJ6GEYJ271	CHIP 1/10W 270	1	
QR2005	UN2213	TRANSISTOR-RESISTOR	1		R773	ERJ6GEYJ124	CHIP 1/10W 120K	1	
QR3004	UN2111	TRANSISTOR-RESISTOR	1		R774	ERJ6GEYJ104	CHIP 1/10W 100K	1	
QR3008	UN2213	TRANSISTOR-RESISTOR	1		R781	ERJ6GEYJ271	CHIP 1/10W 270	1	
QR4001	UN2213	TRANSISTOR-RESISTOR	1		R782	ERJ6GEYJ821	CHIP 1/10W 820	1	
QR6002	UN2119	TRANSISTOR-RESISTOR	1		R792	ERDS2TJ120	C.RESISTOR 1/4W 12	1	
QR6003	UN2113	TRANSISTOR-RESISTOR	1		R795	ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
QR6004	UN2213	TRANSISTOR-RESISTOR	1		R796	ERJ6GEYJ182	CHIP 1/10W 1.8K	1	
QR6007	UN2212	TRANSISTOR-RESISTOR	1		R815	ERJ6GMYJ103	CHIP 1/10W 10K	1	
QR6011,12	UN2212	TRANSISTOR-RESISTOR	2		R816	ERJ6GMYJ822	CHIP 1/10W 8.2K	1	
QR7401	UN2211	TRANSISTOR-RESISTOR	1		R818	ERJ6GMYJ102	CHIP 1/10W 1K	1	
QR7851	UN1211	TRANSISTOR-RESISTOR	1		R819	ERJ6GMYJ182	CHIP 1/10W 1.8K	1	
QR7852	UN1213	TRANSISTOR-RESISTOR	1		R820	ERJ6GMYJ222	CHIP 1/10W 2.2K	1	
					R821	ERJ6GMYJ273	CHIP 1/10W 27K	1	
					R822	ERJ6GMYJ183	CHIP 1/10W 18K	1	
					R823	ERJ6GMYJ271	CHIP 1/10W 270	1	
		RESISTORS			R824	ERJ6GMYJ102	CHIP 1/10W 1K	1	
R301	ERJ6GMYJ122	CHIP 1/10W 1.2K	1		R825	ERJ6GMYJ182	CHIP 1/10W 1.8K	1	
R302	ERJ6GMYJ391	CHIP 1/10W 390	1		R831	ERJ6GMYJ821	CHIP 1/10W 820	1	
R303	ERJ6GMYJ103	CHIP 1/10W 10K	1		R2001,02	ERJ6GMYJ102	CHIP 1/10W 1K	2	
R304	ERJ6GMYJ102	CHIP 1/10W 1K	1		R2004,05	ERJ6GMYJ223	CHIP 1/10W 22K	2	
R305	ERJ6GMYJ824	CHIP 1/10W 820K	1		R2006	ERJ6GMYOR00	M.RESISTOR CH 1/10W 0.00	1	
R306	ERJ6GMYJ152	CHIP 1/10W 1.5K	1		R2007	ERJ6GMYJ332	CHIP 1/10W 3.3K	1	
R307	ERJ6GMYJ102	CHIP 1/10W 1K	1		R2008	ERJ6GMYJ102	CHIP 1/10W 1K	1	
R308	ERJ6GMYJ123	CHIP 1/10W 12K	1		R2009	ERJ6GMYJ393	CHIP 1/10W 39K	1	
R309	ERJ6GMYJ272	CHIP 1/10W 2.7K	1		R2010	ERJ6GMYJ103	CHIP 1/10W 10K	1	
R310	ERJ6GMYJ103	CHIP 1/10W 10K	1		R2011	ERJ6GMYJ152	CHIP 1/10W 1.5K	1	
R311	ERJ6GMYJ272	CHIP 1/10W 2.7K	1		R2012	ERJ6GMYJ221	CHIP 1/10W 220	1	
R312	ERJ6GMYJ182	CHIP 1/10W 1.8K	1		R2013	ERJ6GMYJ103	CHIP 1/10W 10K	1	
R317	ERJ6GMYJ471	CHIP 1/10W 470	1		R2014	ERJ6GMYJ824	CHIP 1/10W 820K	1	
R320	ERJ6GMYJ102	CHIP 1/10W 1K	1		R2015,16	ERJ6GMYJ223	CHIP 1/10W 22K	2	
R325	ERJ6GMYJ151	CHIP 1/10W 150	1		R2017	ERJ6GMYJ222	CHIP 1/10W 2.2K	1	
R326	ERJ6GMYJ822	CHIP 1/10W 8.2K	1		R2018	ERJ6GMYJ221	CHIP 1/10W 220	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R2019	ERJ6GMYJ124	CHIP 1/10W 120K	1	
R2020	ERJ6GMYJ821	CHIP 1/10W 820	1	
R2021	ERJ6GMYJ562	CHIP 1/10W 5.6K	1	
R2022	ERJ6GMYJ272	CHIP 1/10W 2.7K	1	
R2023	ERJ6GMYJ222	CHIP 1/10W 2.2K	1	
R2024	ERJ6GMYJ823	M.RESISTOR CH1/10W 82K	1	
R2025	ERJ6GMYG562	CHIP 1/10W 5.6K	1	
R2026	ERJ6GMYG392	M.RESISTOR CH1/10W 3.9K	1	
R2027	ERJ6GMYJ473	CHIP 1/10W 47K	1	
R2028	ERJ6GMYJ332	CHIP 1/10W 3.3K	1	
R2029	ERJ6GMYJ473	CHIP 1/10W 47K	1	
R2030	ERJ6GMYJ123	CHIP 1/10W 12K	1	
R2031	ERJ6GMYJ392	CHIP 1/10W 3.9K	1	
R2032	ERDS2TJ471	C.RESISTOR 1/4W 470	1	
R2034	ERJ6GMYJ104	CHIP 1/10W 100K	1	
R2037	ERJ6GMYJ103	CHIP 1/10W 10K	1	
R2038	ERJ6GMYJ102	CHIP 1/10W 1K	1	
R2040	ERJ6GMYJ471	CHIP 1/10W 470	1	
R2051	ERJ6GMYJ103	CHIP 1/10W 10K	1	
R2101-03	ERDS2TJ560	C.RESISTOR 1/4W 56	3	
R2104	ERX12SJR47	M.RESISTOR 1/2W 0.47	1	
R2105	ERJ6GMYJ102	CHIP 1/10W 1K	1	
R2106	ERJ6GMYG561	M.RESISTOR CH1/10W 560	1	
R2107	ERJ6GMYG562	CHIP 1/10W 5.6K	1	
R2108	ERJ6GMYG472	M.RESISTOR CH1/10W 4.7K	1	
R2109	ERJ6GMYJ330	CHIP 1/10W 33	1	
R2201	ERDS2TJ122	C.RESISTOR 1/4W 1.2K	1	
R2202-04	ERDS2TJ150	C.RESISTOR 1/4W 15	3	
R2205	ERX12SJR68	M.RESISTOR 1/2W 0.68	1	
R2405	ERJ6GMYJ562	CHIP 1/10W 5.6K	1	
R3001	ERJ6GMYJ103	CHIP 1/10W 10K	1	
R3002	ERJ6GMYJ682	CHIP 1/10W 6.8K	1	
R3003	ERJ6GMYJ472	CHIP 1/10W 4.7K	1	
R3019	ERDS2TJ471	C.RESISTOR 1/4W 470	1	
R3022, 23	ERJ6GMYJ821	CHIP 1/10W 820	2	
R3028	ERJ6GMYJ102	CHIP 1/10W 1K	1	
R3029	ERJ6GMYJ272	CHIP 1/10W 2.7K	1	
R3030	ERJ6GMYJ750	CHIP 1/10W 75	1	
R3042	ERJ6GMYJ102	CHIP 1/10W 1K	1	
R3062	ERJ6GMYJ223	CHIP 1/10W 22K	1	
R3063	ERJ6GMYJ103	CHIP 1/10W 10K	1	
R3071	ERJ6GMYJ222	CHIP 1/10W 2.2K	1	
R3085	ERJ6GMYJ221	CHIP 1/10W 220	1	
R3086	ERJ6GMYJ103	CHIP 1/10W 10K	1	
R3087, 88	ERJ6GMYJ104	CHIP 1/10W 100K	2	
R3094	ERJ6GMYOR00	M.RESISTOR CH1/10W 0.00	1	
R3095	ERJ6GMYJ102	CHIP 1/10W 1K	1	
R3096	ERDS2TJ102	C.RESISTOR 1/4W 1K	1	
R3101	ERJ6GMYJ102	CHIP 1/10W 1K	1	
R3102	ERJ6GMYJ152	CHIP 1/10W 1.5K	1	
R3103	ERJ6GMYJ392	CHIP 1/10W 3.9K	1	
R3104	ERJ6GMYJ152	CHIP 1/10W 1.5K	1	
R3105	ERJ6GMYJ561	CHIP 1/10W 560	1	
R3901	ERJ6GMYJ750	CHIP 1/10W 75	1	
R3902	ERDS2TJ750	C.RESISTOR 1/4W 75	1	
R3903, 04	ERJ6GMYJ242	M.RESISTOR CH1/10W 2.4K	2	
R3905	ERJ6GMYOR00	M.RESISTOR CH1/10W 0.00	1	
R3906	ERJ6GMYJ273	CHIP 1/10W 27K	1	
R3908	ERJ6GMYJ333	CHIP 1/10W 33K	1	
R3909	ERJ6GMYJ750	CHIP 1/10W 75	1	
R3910	ERDS2TJ750	C.RESISTOR 1/4W 75	1	
R3912	ERJ6GMYJ223	CHIP 1/10W 22K	1	
R3913	ERJ6GMYJ123	CHIP 1/10W 12K	1	
R3916	ERDS2T0	C.RESISTOR 1/4W 0	1	
R4001	ERJ6GMYJ100	CHIP 1/10W 10	1	
R4002	ERJ6GMYJ183	CHIP 1/10W 18K	1	
R4003	ERJ6GMYG223	M.RESISTOR CH1/10W 22K	1	
R4004	ERJ6GMYJ562	CHIP 1/10W 5.6K	1	
R4007	ERJ6GMYJ221	CHIP 1/10W 220	1	
R4008	ERJ6GMYJ122	CHIP 1/10W 1.2K	1	
R4010	ERJ6GMYJ683	CHIP 1/10W 68K	1	
R4012	ERJ6GMYJ331	CHIP 1/10W 330	1	
R4013	ERJ6GMYJ394	M.RESISTOR CH1/10W 390K	1	
R4014	ERJ6GMYG133	M.RESISTOR CH1/10W 13K	1	
R4016	ERJ6GMYJ105	CHIP 1/10W 1M	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R4017	ERJ6GMYJ302	M.RESISTOR CH1/10W 3K	1	
R4018	ERJ6GMYJ223	CHIP 1/10W 22K	1	
R4019	ERJ6GMYJ563	CHIP 1/10W 56K	1	
R4020	ERJ6GMYJ562	CHIP 1/10W 5.6K	1	
R4023	ERJ6GMYG473	CHIP 1/10W 47K	1	
R4024, 25	ERJ6GMYG104	CHIP 1/10W 100K	2	
R4026	ERJ6GMYJ123	CHIP 1/10W 12K	1	
R4027	ERJ6GMYJ153	CHIP 1/10W 15K	1	
R4028	ERJ6GMYJ102	CHIP 1/10W 1K	1	
R4031	ERJ6GMYG272	M.RESISTOR CH1/10W 2.7K	1	
R4032	ERJ6GMYG622	M.RESISTOR CH1/10W 6.2K	1	
R4035	ERJ6GMYJ822	CHIP 1/10W 8.2K	1	
R4038	ERDS2TJ562	C.RESISTOR 1/4W 5.6K	1	
R4042	ERJ6GMYJ681	CHIP 1/10W 680	1	
R4044	ERJ6GMYG103	CHIP 1/10W 10K	1	
R6001-03	ERJ6GMYJ101	CHIP 1/10W 100	3	
R6004, 05	ERJ6GMYJ333	CHIP 1/10W 33K	2	
R6006	ERJ6GMYJ332	CHIP 1/10W 3.3K	1	
R6007	ERJ6GMYJ122	CHIP 1/10W 1.2K	1	
R6008	ERJ6GMYJ561	CHIP 1/10W 560	1	
R6009	ERJ6GMYJ333	CHIP 1/10W 33K	1	
R6010	ERJ6GMYJ561	CHIP 1/10W 560	1	
R6011	ERJ6GMYJ333	CHIP 1/10W 33K	1	
R6012	ERJ6GMYJ222	CHIP 1/10W 2.2K	1	
R6013	ERJ6GMYJ683	CHIP 1/10W 68K	1	
R6014	ERJ6GMYJ473	CHIP 1/10W 47K	1	
R6015	ERJ6GMYJ101	CHIP 1/10W 100	1	
R6017	ERJ6GMYJ221	CHIP 1/10W 220	1	
R6018	ERJ6GMYJ131	CHIP 1/10W 130	1	
R6019	ERJ6GMYJ562	CHIP 1/10W 5.6K	1	
R6020	ERJ6GMYJ152	CHIP 1/10W 1.5K	1	
R6021	ERJ6GMYJ201	CHIP 1/10W 200	1	
R6022	ERG3SJ220	M.RESISTOR 3W 22	1	
R6023	ERJ6GMYJ471	CHIP 1/10W 470	1	
R6024	ERJ6GMYJ561	CHIP 1/10W 560	1	
R6025	ERJ6GMYJ391	CHIP 1/10W 390	1	
R6026	ERD2FCVG220	C.RESISTOR 2W 22	1	
R6028	ERJ6GMYJ103	CHIP 1/10W 10K	1	
R6029	ERDS2TJ152	C.RESISTOR 1/4W 1.5K	1	
R6039	ERJ6GMYJ473	CHIP 1/10W 47K	1	
R6040	ERJ6GMYJ562	CHIP 1/10W 5.6K	1	
R6041	ERJ6GMYJ332	CHIP 1/10W 3.3K	1	
R6042, 43	ERJ6GMYJ222	CHIP 1/10W 2.2K	2	
R6044, 45	ERJ6GMYJ221	CHIP 1/10W 220	2	
R6047	ERDS1TJ332	C.RESISTOR 1/2W 3.3K	1	
R6048	ERJ6GMYJ681	CHIP 1/10W 680	1	
R6049	ERJ6GMYJ222	CHIP 1/10W 2.2K	1	
R6053	ERG2SJ471	M.RESISTOR 2W 470	1	
R6054	ERJ6GMYJ104	CHIP 1/10W 100K	1	
R6055	ERJ6GMYJ101	CHIP 1/10W 100	1	
R6056	ERJ6GMYJ473	CHIP 1/10W 47K	1	
R6057	ERJ6GMYJ222	CHIP 1/10W 2.2K	1	
R6059	ERJ6GMYJ102	CHIP 1/10W 1K	1	
R6060	ERJ6GMYJ104	CHIP 1/10W 100K	1	
R6062	ERJ6GMYJ392	CHIP 1/10W 3.9K	1	
R6101	ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R6102	ERJ6GEYJ333	CHIP 1/10W 33K	1	
R6103, 04	ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	2	
R7401	ERDS2TJ103	C.RESISTOR 1/4W 10K	1	
R7402	ERJ6GEYJ181	CHIP 1/10W 180	1	
R7656	ERJ6GEYJ221	CHIP 1/10W 220	1	
R7676	ERG1SJ332	M.RESISTOR 1W 3.3K	1	
R7801	ERDS2TJ472	C.RESISTOR 1/4W 4.7K	1	
R7802	EROS2CKG7502	M.RESISTOR 1/4W 75K	1	
R7803, 04	ERDS2TJ103	C.RESISTOR 1/4W 10K	2	
R7805	ERDS2TJ473	C.RESISTOR 1/4W 47K	1	
R7806	EROS2CKG3601	M.RESISTOR 1/4W 3.6K	1	
R7851	ERDS2TJ103	C.RESISTOR 1/4W 10K	1	
R7852	ERDS2TJ332	C.RESISTOR 1/4W 3.3K	1	
R7860	ERDS2TJ471	C.RESISTOR 1/4W 470	1	
T703	EIV5ECO13A	TRANSFORMER	1	
T704	EIV5ECO06A1	TRANSFORMER	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C6703	ECEA1HK010	E.CAPACITOR 50V 1U	1	
C6704	ECEA1HKR3	E.CAPACITOR 50V 3.3U	1	
C7501	ECRHA030E41	TRIMMER	1	
C7502	ECUM1H08ODCN	C.CAPACITOR CH 50V 8P	1	
C7503	ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
C7504	ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C7505	ECEAOJK221	E.CAPACITOR 6.3V 220U	1	
C7506	ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C7507	ECEA1HGR22	E.CAPACITOR 50V 0.22U	1	
C7508,09	ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	2	
C7510	ECEAOJK470	E.CAPACITOR 6.3V 47U	1	
C7511	ECEA1HKA100	E.CAPACITOR 50V 10U	1	
C7512	ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C7513	ECUM1H560JCN	C.CAPACITOR CH 50V 56P	1	
C7525	ECUM1H821KBN	C.CAPACITOR CH 50V 820P	1	
C7551	ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
D6701	PN323B	PHOTO DIODE	1	
D7501	MA4068	DIODE	1	
D7504	MA165	DIODE	1	
D7507	MA165	DIODE	1	
D7510,11	MA165	DIODE	2	
D7513	MA165	DIODE	1	
D7516	MA165	DIODE	1	
D7530	MA165	DIODE	1	
D7532-35	MA165	DIODE	4	
D7537-41	MA165	DIODE	5	
D7556	LN38GCPP	LED	1	
D7557	LN28RCPP	LED	1	
DP7501	VSL0164	DISPLAY TUBE	1	
IC6701	UPC1490HA	IC	1	
IC7501	MN187125VHP	IC	1	
IC7502	MN12261	IC	1	
IC7503	MN1280L	IC	1	
IC7504	MN1280S	IC	1	
L7501	VLQEL05F221K	COIL 220UH	1	
P7501	VJS1492	CONNECTOR (FEMALE)	1	
P7502	VJS2174W	CONNECTOR	1	
P7505	VJS2652	CONNECTOR (FEMALE)	1	
Q7501	2SD601	TRANSISTOR CHIP	1	
QR7501	UN2213	TRANSISTOR-RESISTOR	1	
QR7502	UN2212	TRANSISTOR-RESISTOR	1	
QR7525	UN2216	TRANSISTOR-RESISTOR	1	
		RESISTORS		
R6701	ERDS2TJ124	C.RESISTOR 1/4W 120K	1	
R6702	ERDS2TJ8R2	C.RESISTOR 1/4W 8.2	1	
R7501	ERJ6GMXJ122	CHIP 1/10W 1.2K	1	
R7502	ERJ6GMXJ224	CHIP 1/10W 220K	1	
R7504	ERJ6GMXJ101	CHIP 1/10W 100	1	
R7505	ERJ6GMXJ104	CHIP 1/10W 100K	1	
R7508-10	ERJ6GMXJ103	CHIP 1/10W 10K	3	
R7511	ERJ6GMXJ332	CHIP 1/10W 3.3K	1	

[illegible]

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C1136	ECQV1H105JZ	P.CAPACITOR 50V 1U	1	
C1137	ECQV1H223JS	P.CAPACITOR 50V 0.022U	1	
C1142	VCCO021	C.CAPACITOR	1	
C1145	VCCO021	C.CAPACITOR	1	
C1147	VCCO022	C.CAPACITOR 1000P	1	
C1149	ECKF1H821KB	C.CAPACITOR 50V 820P	1	
C1149	ECKF1H821KB	C.CAPACITOR 50V 820P	1	
D1101	SNR-300K4	SURGE ABSORBER	1	
D1102	S1WBA60	DIODE	1	
D1103	VSDO002	DIODE	1	
D1104	AP01C	DIODE	1	
D1105	MA178	DIODE	1	
D1106	MA4039	DIODE	1	
D1107	MA165	DIODE	1	
D1108	ERA22-O2	DIODE	1	
D1109	RL22P	DIODE	1	
D1110	MA185	DIODE	1	
D1111	11EQS04	DIODE	1	
D1112	ERB83-004	DIODE	1	
D1113	MA220OB	DIODE	1	
D1114	MA4130L	DIODE	1	
IC1101	STRD1816	IC	1	
IC1102	STK5392	IC	1	
L1102	ELF18D221F	COIL	1	
L1103	VLQ0335	COIL	1	
P1101	VJP1394T	CONNECTOR(MALE)	1	
P1102	VJS2625	CONNECTOR	1	
Q1102	2SD1330	TRANSISTOR	1	
R1101	ERC12AGM334	S.RESISTOR 1/2W 330K	1	
R1102, 03	ERG2SJ823	M.RESISTOR 2W 82K	2	
R1104	ERDS2TJ562	C.RESISTOR 1/4W 5.6K	1	
R1106	ERG3ANJ683	M.RESISTOR 3w 68K	1	
R1108	ERD2FCG182	C.RESISTOR 1/4W 1.8K	1	
R1111	ERG2SJ181	M.RESISTOR 2W 180	1	
R1113	ERG1SJ182	M.RESISTOR 1W 1.8K	1	
R1114	ERDS2TJ103	C.RESISTOR 1/4W 10K	1	
R1118	ERDS2TJ1R0	C.RESISTOR 1/4W 1.0	1	
R1123, 24	ERDS2TJ153	C.RESISTOR 1/4W 15K	2	
R1125	ERW1PK2R2	WIRE WOUND 2W 2.2	1	
T1101	VLT0571	TRANSFORMER	1	
VJF0318		FUSE HOLDER	2	
VMZ1183		CAPACITOR COVER (A)	1	
VMZ1184		CAPACITOR COVER (B)	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C6805-06	ECUM1H330JCN	C.CAPACITOR CH 50V 33P	2	
C6807-09	ECUM1H1032FN	C.CAPACITOR CH 50V 0.01U	3	
C6810-12	ECUM1E104ZFM	C.CAPACITOR CH 25V 0.1U	3	
D6801	SE303ACYTF	DIODE	1	
D6802-11	MA221	DIODE	10	
D6813	MA221	DIODE	1	
D6818	MA221	DIODE	1	
IC6801	MN158453VHM	IC	1	
IC6802	AN8355S	IC	1	
L6801	ELT3K017B	COIL	1	
Q6801	2SB710	TRANSISTOR CHIP	1 (Q,R,S)	
Q6802	2SB709	TRANSISTOR CHIP	1 (Q,R,S)	
Q6803	2SD601	TRANSISTOR CHIP	1 (Q,R,S)	
QR6802	FA1A4M	TRANSISTOR-RESISTOR	1	
QR6803	FA1L4Z	TRANSISTOR-RESISTOR	1	
R14	ERJ6GMYJ473	M.RESISTOR CH1/10W 47K	1	
R15	ERJ6GMYJ153	M.RESISTOR CH1/10W 15K	1	
R16	ERJ6GMYJ334	M.RESISTOR CH1/10W 330K	1	
R6801	ERJ6GMYJ224	CHIP 1/10W 220K	1	
R6802-04	ERJ6GMYJ474	CHIP 1/10W 470K	3	
R6805-06	ERJ6GMYJ682	CHIP 1/10W 6.8K	2	
R6807	ERJ8GCYJ120	M.RESISTOR CH 1/8W 12	1	
R6808	ERJ8GCYJ150	M.RESISTOR CH 1/8W 15	1	
R6809	ERJ6GMYJ222	CHIP 1/10W 2.2K	1	
R6810	ERJ6GMYJ224	CHIP 1/10W 220K	1	
R6811	ERJ6GMYJ684	CHIP 1/10W 680K	1	
R6812	ERJ6GMYJ563	CHIP 1/10W 56K	1	
R6813	ERJ6GMYJ120	CHIP 1/10W 12	1	
SN6801	VSQ0567	SENSOR	1	
VR6801	EVNDXAA03B34	V.RESISTOR 30K	1	
X6801	VSX0245	CRYSTAL OSCILLATOR	1	
X6802	EFBAL30D001K	CRYSTAL OSCILLATOR	1	
		MISCELLANEOUS		
	VQ01406	TERMINAL BASE	1	
	WJR0401	TERMINAL ANGLE	2	

Laufwerk G 2

(3-Motoren-Laufwerk)

Drive Mechanism G 2

(3-motor drive mechanism)

D

GB

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Meßgeräte / Meßmittel

Zweikanaloszilloskop
Regeltrenntrafo

Kopfscheibenabzieher (VFK 0341)
Referenzplatte (VFK 0387)

Einstellplatte (VFK 0191)
Höhenmeßuhr (VFK 0190)
Höhenlehre (VFK 0344)
Bandzugmesser (VFK 0132)
Kontaktor (0,1N...1N)
Kontaktor (0,5N...5N)
Einstellschraubendreher
Sechskant-Stiftschlüssel 2mm
Testcassette
Testcassette (HiFi)

Test equipment / aids

Dual channel oscilloscope
Variable isolating transformer

Head wheel extractor (VFK 0341)
Tension post adjustment plate
(VFK 0387)
Post adjustment plate (VFK 0191)
Dial height gauge (VFK 0190)
Height gauge (VFK 0344)
Tape tension meter (VFK 0132)
Tension gauge (0.1N...1N)
Tension gauge (0.5N...5N)
Post adjustment screw driver
Hexagonal wrench 2mm
Test cassette
Test cassette (HiFi)

z.B. / e.g. GRUNDIG
MO 20, MO 53
RT 5 A

Sach-Nr. / Part no
75987 - 262.96
75987 - 262.86

75987 - 262.75
75987 - 262.76
75987 - 262.87
75987 - 262.74
72001 - 401.00
72001 - 403.00
75987 - 262.80
72004 - 082.00
9.27540 - 1011
9.27540 - 1016

Die Meßmittel können Sie über die Serviceorganisation beziehen. Wir weisen jedoch darauf hin, daß diese z.T. bereits am Markt eingeführt sind.

You can order the test equipments from the Service organization. We refer to you that these test equipments are already obtainable on the market.

1. Absenken des Cassettenschachtes von Hand (ohne Cassette)

- Netzstecker ziehen.
- Riemenscheibe (137) ca. 3 Umdrehungen im Uhrzeigersinn drehen.
- Sicherungshebel (P) ausrasten (Fig. 1).
- Riemenscheibe (137) um eine Umdrehung weiterdrehen.
- Hebel (Q) nach unten drücken und Sicherungshebel (P) erneut ausrasten.
- Cassettenschacht durch Weiterdrehen der Riemenscheibe (137) vollständig absenken

1. Lowering the Cassette Compartment by Hand (without cassette)

- Disconnect the machine from mains.
- Rotate the drive belt pulley (137) approx. 3 revolutions in the clockwise direction.
- Release the locking lever (P) (Fig. 1).
- Rotate the drive belt pulley (137) by one more revolution.
- Push the lever (Q) down and release the locking lever (P) once again.
- Lower the cassette compartment fully by rotating the drive belt pulley (137) further in a clockwise direction.

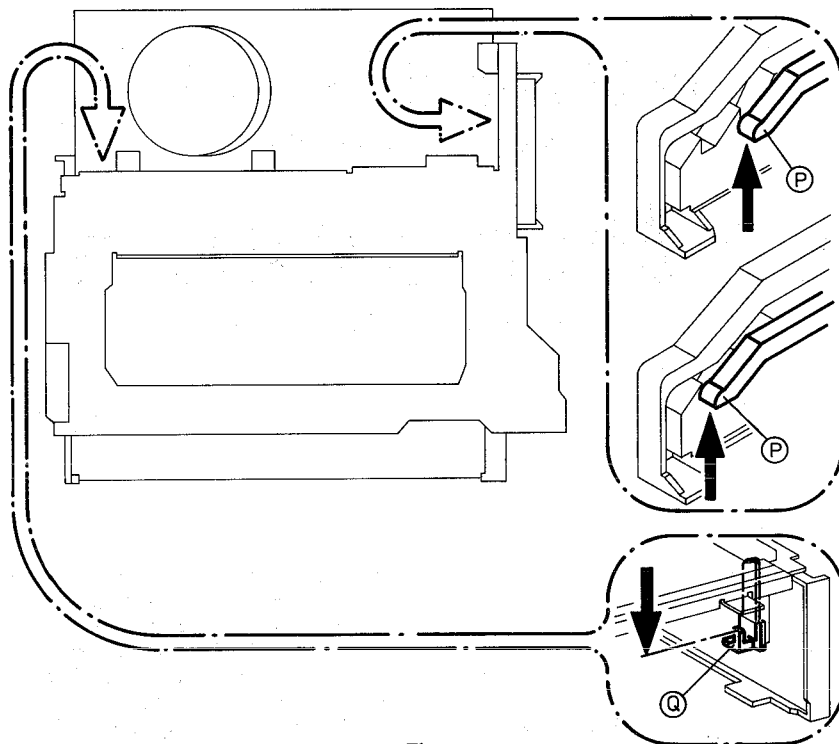


Fig. 1

2. Cassettenauswurf von Hand

- Netzstecker ziehen
- Umstellhebel (122) durch Drücken in Pfeilrichtung (Fig. 2) ausrasten.
- Capstanrotor langsam gegen den Uhrzeigersinn drehen, bis die Kupplungsscheibe (116) einrastet.
- Schritte b) und c) wiederholen bis die Cassette ausgeworfen wird.

2. Ejecting the Cassette by Hand

- Disconnect the machine from the mains.
- Disengage the change-over lever (122) by pressing it in the direction of the arrow (Fig. 2).
- Rotate the capstan rotor slowly anti-clockwise until the clutch disk (116) locks.
- Repeat steps b) and c) until the cassette is ejected.

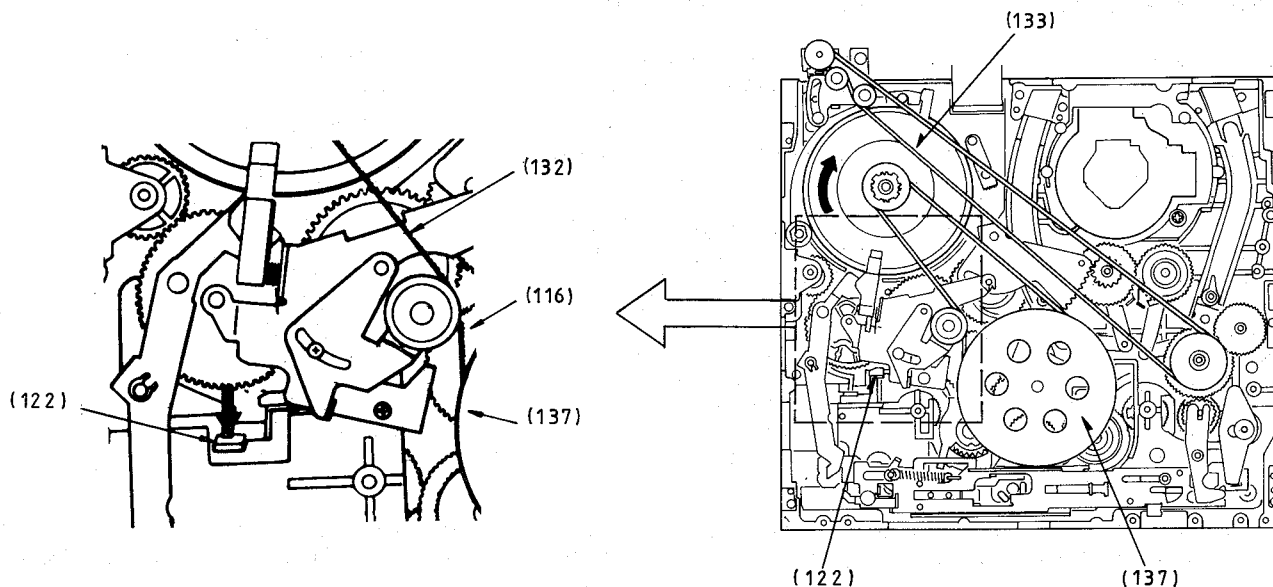


Fig. 2

3. Ausbau des Cassettenschachts

- 2 Schrauben "A" herausdrehen (Fig. 3).
- Cassettenschacht durch Drehen des Capstanrotors (133) im Uhrzeigersinn soweit bewegen, bis die 2 Schrauben "B" entfernt werden können.
- Steckverbindung P1508 abziehen und Cassettenschacht herausnehmen.

4. Einbau des Cassettenschachtes

- Umstellhebel (122), Fig. 2, oder Kern der Spule (66), Fig. 4, in Pfeilrichtung drücken, um die Verriegelung zu öffnen.
- Capstanrotor entgegen dem Uhrzeigersinn drehen bis die Mechanik die Stellung "Auswerfen" erreicht hat (Endanschlag).
- Lage des Markierungslochs (a) oder der Markierungsnase (d) des Zwischenrades (65) merken (Fig. 5) und Capstanrotor in entgegengesetzter Richtung solange drehen, bis das Zwischenrad (65) eine Umdrehung entgegen dem Uhrzeigersinn gemacht hat.
- Cassettenschacht soweit verschieben, bis der 2. Zahn der Zahnstange (224) über dem rechtwinkligen Loch "C" liegt (Fig. 6).
- Gegebenenfalls 2 Schrauben "D" herausdrehen und Abdeckplatte (201) entfernen, sodaß die Zahnstange (224) und das Zwischenrad (65) beim Einbau zu sehen sind.
- Cassettenschacht so in das Laufwerk einsetzen, daß der 2. Zahn der Zahnstange (224) in der 5. Zahnücke des Zwischenrades (65) eingreift (Fig. 7). Gegebenenfalls Cassettenschacht geringfügig verschieben.
- Abdeckplatte (201) montieren und die 6 Schrauben in der Reihenfolge "D", "A", "B" eindrehen (Fig. 3, Fig. 6)
- Steckverbindung P 1508 kontaktieren

Hinweis:

Falls die Schachtfunktionen nicht richtig ausgeführt werden, Einbau wiederholen.

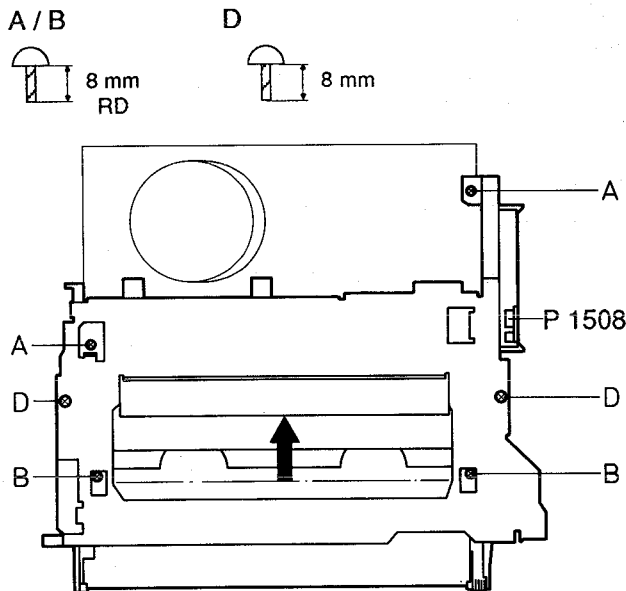


Fig. 3

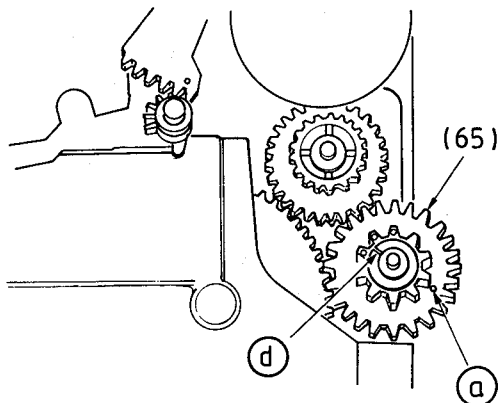


Fig. 5

3. Removing the Cassette Compartment

- Remove the 2 screws "A" (Fig. 3).
- Rotate the capstan rotor (133) to move the cassette compartment so that it is possible to remove the 2 screws "B".
- Pull out the plug-type connector P1508 and remove the cassette compartment.

4. Refitting the Cassette Compartment

- Press the change-over lever (122), Fig. 2, or the core of the solenoid (66), Fig. 4, in the direction of the arrow to disengage the lever.
- Rotate the capstan rotor in the anti-clockwise direction until the mechanics reaches the "Eject" position (end stop).
- Note the position of the marking hole (a) or the marking lug (d) on the intermediate gear (65), Fig. 5, and rotate the capstan rotor in the opposite direction until the intermediate gear (65) makes one complete revolution in anti-clockwise direction.
- Move the cassette compartment so that the 2nd tooth of the toothed rack (224) is positioned over the right angled hole "C" (Fig. 6).
- If necessary, remove the 2 screws "D" and remove the top plate (201) so that the toothed rack (224) and the intermediate gear (65) can be seen during assembly.
- Insert the cassette compartment into the mechanics so that the 2nd tooth of the toothed rack (224) engages with the 5th tooth space of the intermediate gear (65) (Fig. 7). If necessary move the cassette by a small amount.
- Fit the top plate (201) and tighten the 6 screws in the sequence "D", "A", "B" (Fig.3, Fig.6).
- Reconnect the plug connector P1508.

Note:

If the functions of the cassette compartment are not carried out correctly, repeat the assembly procedure.

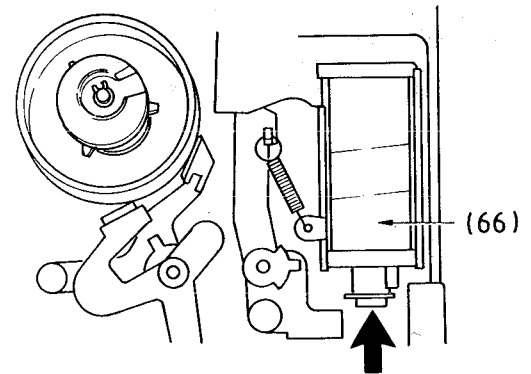


Fig. 4

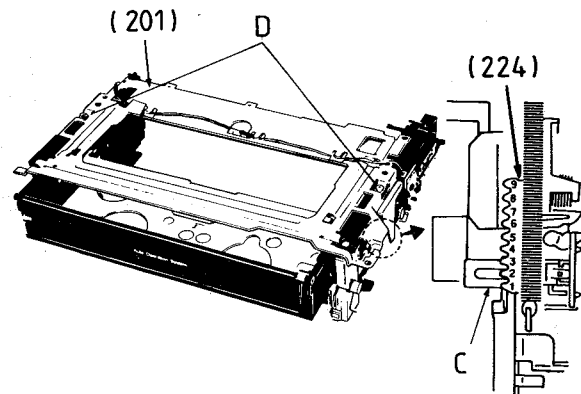


Fig. 6

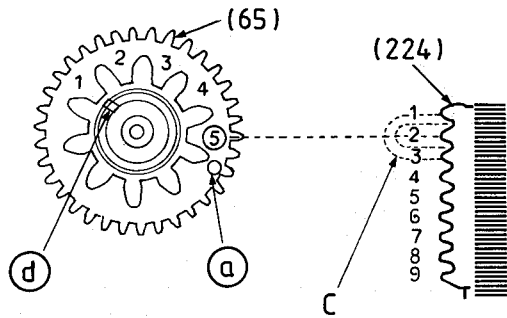


Fig. 7

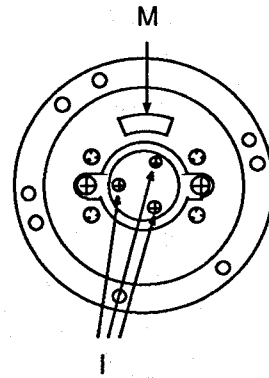


Fig. 8

5. Arbeiten am Bandtrommelbaustein

5.1 Austausch der Kopfscheibe (7)

Servicemittel: Kopfscheibenabzieher

Achtung:

- Die Kopfscheibe sitzt sehr fest auf der Antriebsachse. Arbeiten Sie deshalb mit äußerster Sorgfalt und berühren Sie die Videoköpfe nicht!
- Wenn sich nach dem Einbau die weißen Flächen "M" (Fig. 12) nicht decken, erfolgt die Wiedergabe vorher durchgeführter Aufnahmen in Schwarz / Weiß!
- Die 3 Schrauben "I" nicht lösen (Fig. 8)!

Ausbau:

- Schrauben "F", "H" herausdrehen und Erdungsfeder (5) entfernen (Fig. 9 / Fig. 10).
 - Kopfscheibenanschlüsse "K" entlöten, Außenring der Kopfscheibe (7) leicht anwärmen (z.B. Föhn) und Kopfscheibe (7) vorsichtig abziehen (Fig. 10).
- Gegebenenfalls Kopfscheiben-Abziehvorrichtung verwenden (Fig. 11). Hierzu die Abziehvorrichtung in den Gewindelöchern "L" der Kopfscheibe befestigen und den Handgriff im Uhrzeigersinn drehen bis die Kopfscheibe von der Achse abgezogen ist.

Einbau:

- Kopfscheibe (7) so auf die Antriebsachse stecken, daß sich die weißen Flächen "M" decken (Fig. 12).
- Schrauben "H" eindrehen und Erdungsfeder (5) montieren.
- Kopfscheibenanschlüsse "K" anlöten.

5. Working on the Tape Drum Module

5.1 Replacing the Head Wheel (7)

Service Aid: Head Wheel Extractor

Attention:

- The Head Wheel is fitted very tightly onto the drive shaft. Therefore, when carrying out service work be very careful and especially ensure that the video heads are not touched!
- If, after reassembly, the white areas "M" (Fig. 12) do not coincide, previous recordings on the tape will be reproduced on playback in black and white!
- Do not loosen the 3 screws "I" (Fig. 8)

Removing:

- Remove the screws "F" and "H" and then the earthing spring (5) (Fig. 9 / Fig. 10).
- Unsolder the head wheel connections "K". Warm up the outer ring of the head wheel (e.g. Hairdryer) and pull the head wheel (7) off carefully (Fig. 10).
- If necessary use the head wheel extractor (Fig. 11). For this locate the extractor into the holes "L" drilled in the head wheel and rotate the handle in the clockwise direction until the head wheel is pulled off the shaft.

Refitting:

- Fit the head wheel (7) onto the shaft so that the white areas "M" coincide (Fig. 12).
- Refit the screws "H" and the earthing spring (5) with screw "F".
- Resolder the head wheel connections "K".

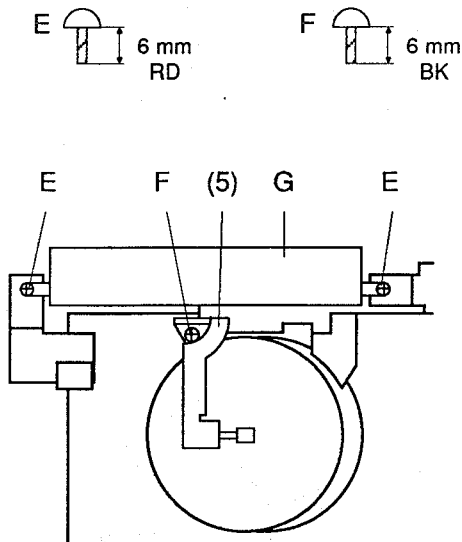


Fig. 9

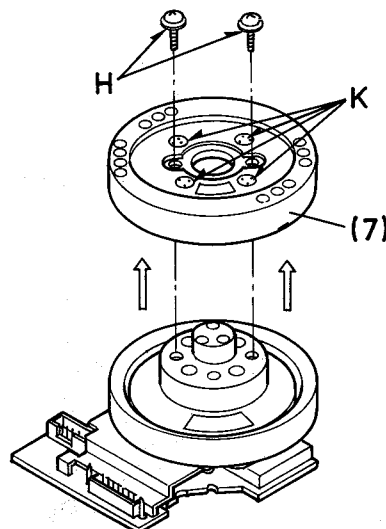


Fig. 10

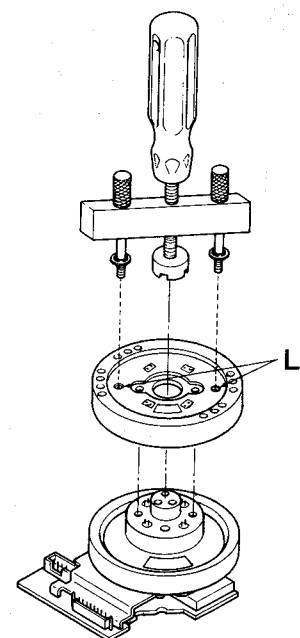


Fig. 11

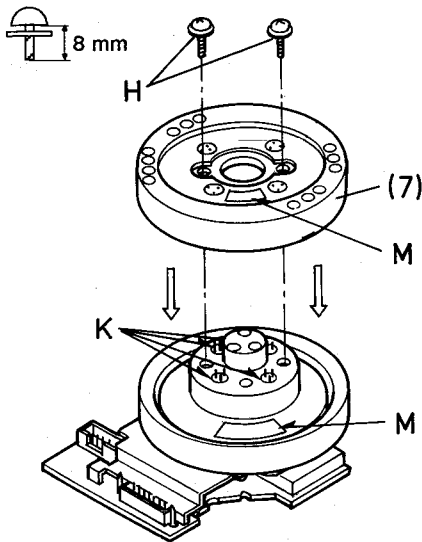


Fig. 12

5.2 Reinigen der Kopfscheibe

- Kopfscheibe festhalten und Videoköpfe mit einem spiritusgetränkten Reinigungsstäbchen in Bandlaufrichtung vorsichtig abreiben (Fig. 13).

5.3 Austausch des Bandtrommelbausteins

Ausbau des Bandtrommelbausteins (6)

- 3 Schrauben "E" und "F" herausdrehen (Fig. 9).
- Kopfverstärker "G" und Erdungsfeder (5) entfernen.
- Steckverbindungen lösen.
- 3 Schrauben "N" entfernen (Fig. 14) und Bandtrommelbaustein (6) vorsichtig aus dem Laufwerk ziehen.

Einbau des Bandtrommelbausteins (6)

- Bandtrommelbaustein (6) ins Laufwerk stecken und 3 Schrauben "N" eindrehen (Fig. 14).
- Erdungsfeder (5) mit Schraube "F" befestigen (Fig. 9).
- Kopfverstärker "G" und Steckverbindungen kontaktieren.
- 2 Schrauben "E" eindrehen
- Bandlauf- / Kompatibilitätseinstellung prüfen (Kap. 6.8)

5.4 Austausch der Kopfscheiben-Motorsteuerplatte

- Bandtrommelbaustein gemäß Kap. 5.3 ausbauen.
- Lötstelle "O" öffnen und Abschirmung entfernen (Fig. 15).
- 18 Lötstellen "P", einschließlich der 10 in der Abbildung Fig. 15 nicht sichtbaren, öffnen.
- 2 Schrauben "Q" herausdrehen und Kopfscheiben-Motorsteuerplatte entfernen.

Der Einbau erfolgt in umgekehrter Reihenfolge.

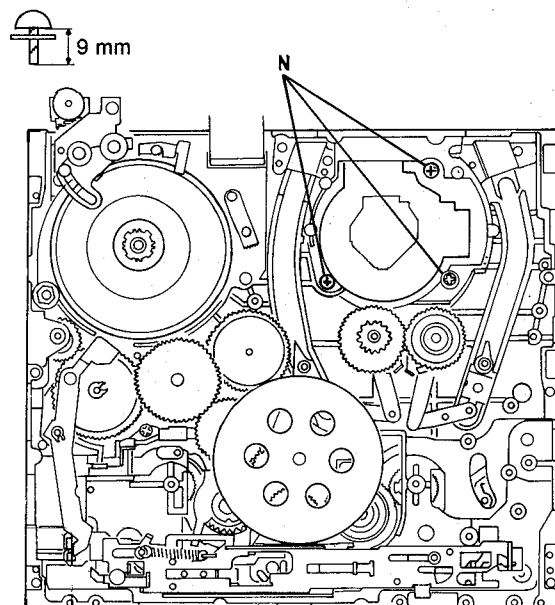


Fig. 14

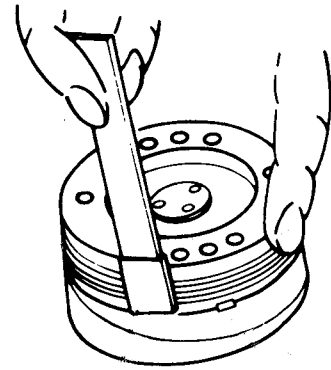


Fig. 13

5.2 Cleaning the Head Wheel

- Hold the head wheel stationary and clean the video heads with a cleaning stick soaked with spirit by wiping carefully in the direction of the tape transport (Fig. 13).

5.3 Replacing the Tape Drum Module

Removing the Tape Drum Module (6)

- Remove the 3 screws "E" and "F" (Fig. 9).
- Remove the head amplifier "G" and the earthing spring (5).
- Loosen the plug connectors.
- Remove the 3 screws "N" (Fig. 14) and pull the Tape Drum Module (6) carefully out of the mechanics.

Refitting the Tape Drum Module (6)

- Place the Tape Drum Module (6) into the mechanics and tighten the 3 screws "N" (Fig. 14).
- Refit the earthing spring (5) with the screw "F" (Fig. 9).
- Reconnect the Head Amplifier "G" and the plug connectors.
- Refit the 2 screws "E".
- Check the Tape Transport/Compatibility Adjustment (para 6.8)

5.4 Replacing the Head Wheel-Motor Drive Panel

- Remove the Tape Drum Module as described in para 5.3.
- Unsolder the solder pads "O" and remove the screen (Fig. 15).
- Open the 18 solder connections "P" including the 10 not visible in the illustration (Fig. 15).
- Undo the 2 screws "Q" and remove the Head Wheel-Motor Drive Panel.

For reassembly, reverse the sequence.

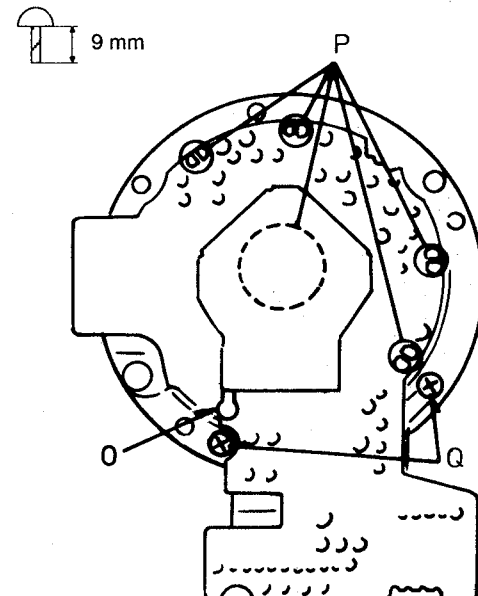


Fig. 15

5.5 Austausch des Kopfscheiben-Motorsteuer-IC's

- Kopfscheiben-Motorsteuerplatte gemäß Kapitel 5.4 ausbauen.
- Schraube "R" (Fig. 16) und Kühlblech entfernen.
- IC auslöten.

Der Einbau erfolgt in umgekehrter Reihenfolge.

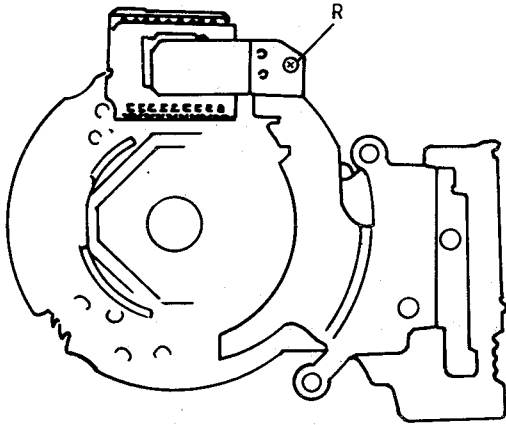
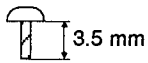


Fig. 16

5.5 Replacing the Head Wheel-Motor Drive IC

- Remove the Head Wheel-Motor Drive Panel as described in para 5.4.
 - Release the screw "R" (Fig. 16) and the heat sink.
 - Unsolder the IC.
- For reassembly, reverse the sequence.

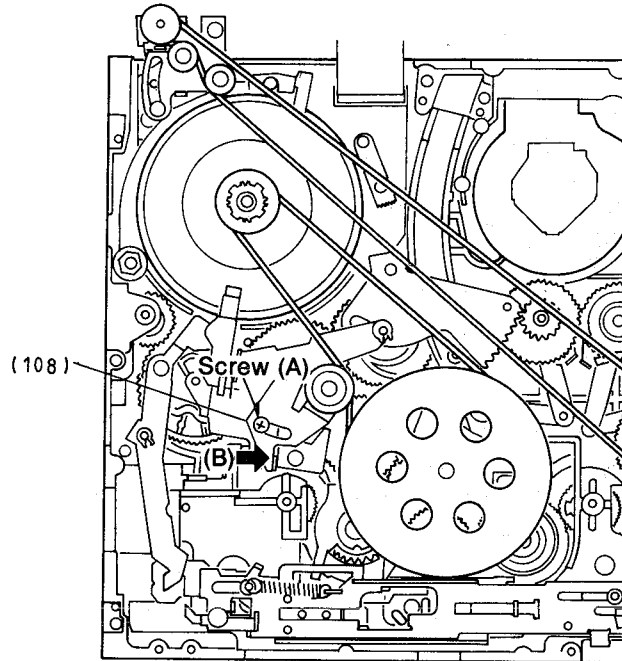


Fig. 17

6. Mechanische Einstellungen

6.1 Einstellen der Riemenspannung des Capstan-motors

Meßmittel: Kontaktor (0,1N - 1N)

- Schraube (A) lösen (Fig. 17).
- Kontaktor am Punkt (B) ansetzen und Spannrollenhebel (108) in Pfeilrichtung (B) drücken.
- Zeigt die Skala des Kontaktors $0,4 \text{ N} \pm 0,05 \text{ N}$ (Einstellwert) an, Schraube (A) anziehen.

6.2 Einstellen der Riemenspannung des Umspul-motors

Meßmittel: Kontaktor (0,5N - 5N)

- Schraube (C) lösen (Fig. 18).
- Kontaktor am Punkt (D) ansetzen und Spannrollenhebel (93) in Pfeilrichtung (D) drücken.
- Zeigt die Skala des Kontaktors $2,25 \text{ N} \pm 0,25 \text{ N}$ (Einstellwert) an, Schraube (C) anziehen.

6. Mechanical Adjustments

6.1 Adjusting the Belt Tension of the Capstan Motor

Service Aid: Tension gauge (0.1N - 1N)

- Loosen the screw (A), (Fig. 17).
- Fit the Tension Gauge to point (B) and press the tension roller lever (108) in the direction of the arrow (B).
- When the Tension Gauge indicates $0.4 \text{ N} \pm 0.05 \text{ N}$ (Specified Value), tighten the screw (A).

6.2 Adjusting the Belt Tension of the Capstan Motor

Service Aid: Tension gauge (0.5N - 5N)

- Loosen the screw (C), (Fig. 18)
- Fit the Tension Gauge to point (D) and press the tension roller lever (93) in the direction of the arrow (D).
- When the Tension Gauge indicates $2.25 \text{ N} \pm 0.25 \text{ N}$ (Specified Value), tighten the screw (C).

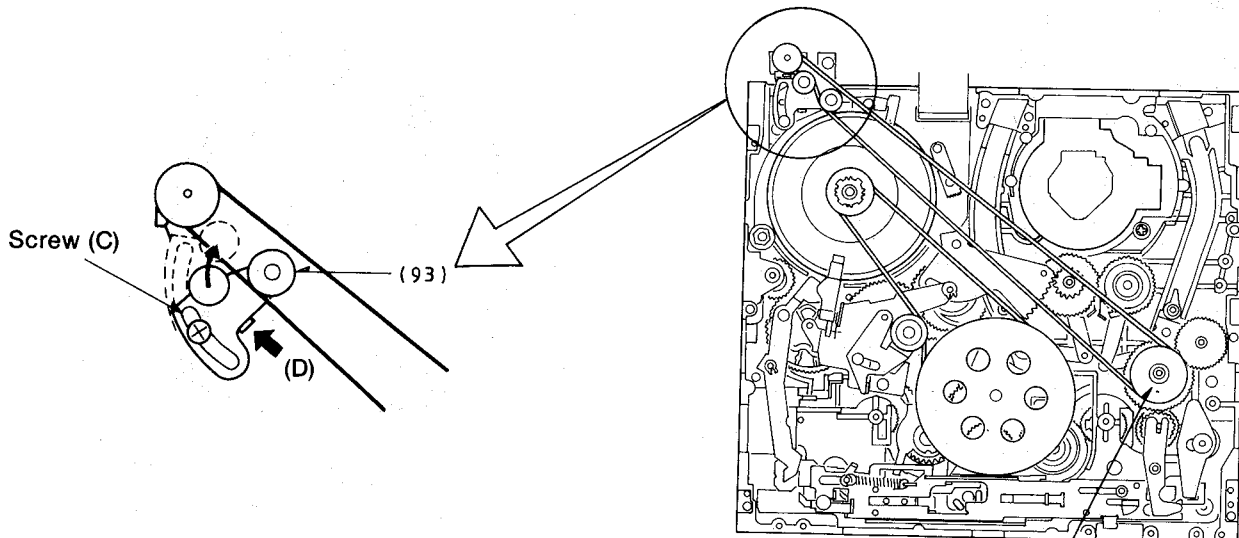


Fig. 18

(151)

6.3 Lageeinstellung des Bandzugfühlers

Meßmittel: Referenzplatte, Sechskantstiftschlüssel 2mm

- Gerät vom Netz trennen.
- Cassettenschacht ausbauen (Kap. 3).
- Umstellhebel (122) drücken und Capstanrotor (133) im Uhrzeigersinn drehen bis der Einfädelvorgang abgeschlossen ist (Fig. 19). Dabei den Umschalthebel (122) wiederholt ausrasten.
- Referenzplatte auflegen.
- Exzenter "S" der Bremsbandbefestigung mit dem Sechskantstiftschlüssel so einstellen, daß der Bandzugbolzen "T" gerade die Referenzplatte berührt (Fig. 20).
- Referenzplatte entfernen und Capstanrotor (133) solange entgegen dem Uhrzeigersinn drehen, bis ausgefädelt ist. Dabei den Umschalthebel (122) wiederholt ausrasten.
- Cassettenschacht einbauen (Kap. 4).

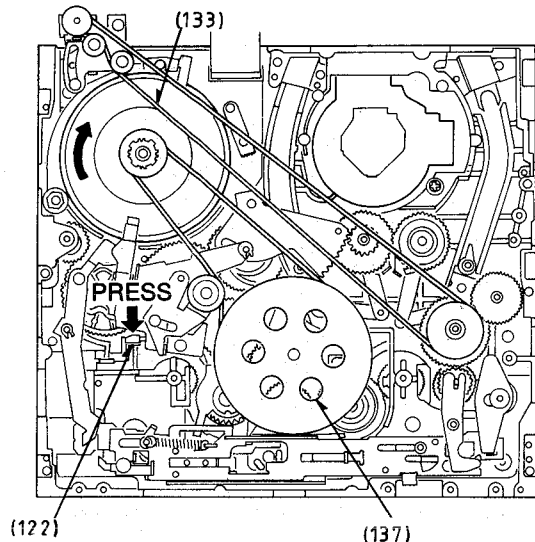


Fig. 19

6.3 Adjustment of the Tape Tension Sensor position

Service Aid: Tension post adjustment plate, Hexagon Wrench (Allen Key) 2mm

- Disconnect the recorder from the mains.
- Remove the cassette compartment (para 3)
- Press the change-over lever (122) and rotate the capstan rotor (133) in the clockwise direction until the loading-in process is completed (Fig. 19). In doing so, disengage the change-over lever (122) repeatedly.
- Fit the Tension Post Adjustment Plate.
- Adjust the cam "S" on the brake band securing point with the hexagon wrench so that the tape tension bolt "T" just touches the Tension Post Adjustment Plate (Fig. 20).
- Remove the Tension Post Adjustment Plate and rotate the capstan rotor (133) in the anti-clockwise direction until the mechanics unloads. In doing so, disengage the change-over lever (122) repeatedly.
- Refit the cassette compartment (para 4).

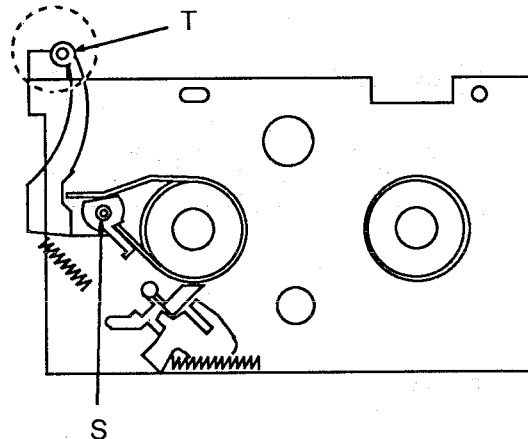


Fig. 20

6.4 Messen und Einstellen des Bandzuges

Meßmittel: Bandzugmesser, A/W-Cassette E 120

- A / W-Cassette E 120 vom Bandanfang an abspielen
- Nach ca. 20 Sekunden den Bandzugmesser "BZ" nach Fig. 21 in den Bandlauf einfügen.
- Weicht der abgelesene Bandzug vom Sollwert 0,2 N ... 0,25 N ab, den Bandzug durch Umhängen der Feder (12) auf den Sollwert einstellen (Fig. 22).

Hinweis: Während der Messung müssen die Fühler des Bandzugmessers guten Kontakt zum Band haben. Messung mehrmals wiederholen.

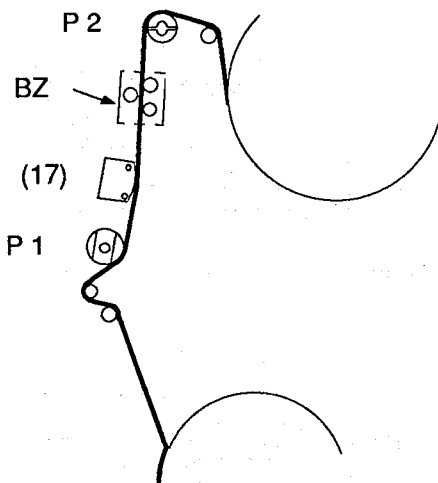


Fig. 21

6.4 Measuring and Adjusting the Tape Tension

Service Aids:

Tape tension meter, Record / Playback cassette E120

- Playback the R/P Cassette E120 from the beginning.
- After about 20 seconds fit the Tape Tension Meter "BZ" as shown in Fig. 21.
- If the measured value is different from the specified value of 0.2N ... 0.25N, relocate the spring (12) to obtain the specified value (Fig. 22).

Note: When making measurements, ensure that the probes of the meter are in good contact with the tape. Repeat this measurement several times.

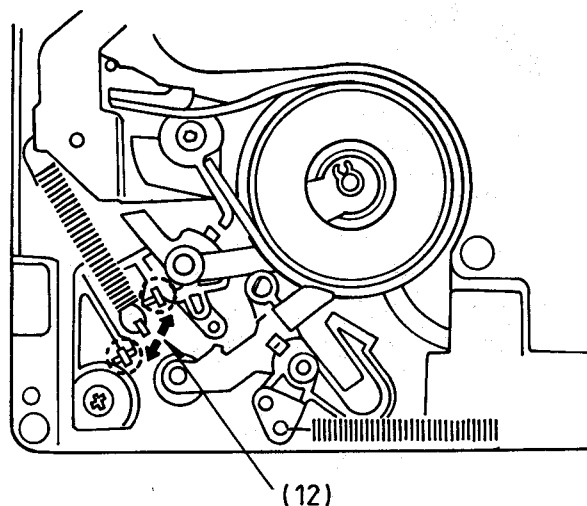


Fig. 22

6.5 Einstellen des Capstanrotors (133)

Meßmittel: Höhenmeßuhr, Höhenlehre

- Einstellschraube (41), Fig. 23, soweit herausdrehen, bis sich Capstanstator (135) und -rotor (133) gerade berühren.
- Höhenlehre "U" auf den Capstanrotor (133) legen und Höhenmeßuhr nach Abbildung Fig. 24 auf dem geschliffenen Laufwerkrand positionieren. Skala der Höhenmeßuhr auf Null stellen.
- Mit der Einstellschraube (41) Abstand zwischen Capstanrotor (133) und -stator (135) auf 0,5 mm...0,55 mm einstellen (Fig. 25).

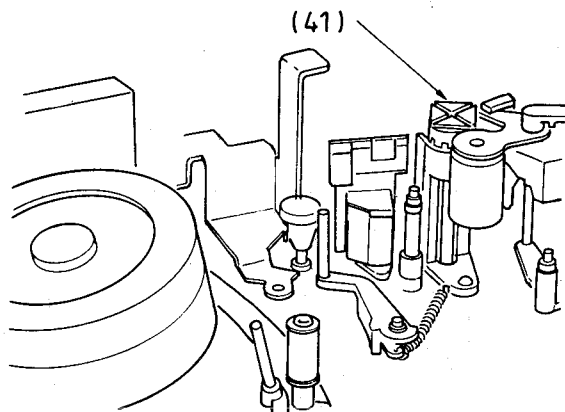


Fig. 23

6.5 Adjusting the Capstan Rotor (133)

Service Aids: Dial Height Gauge, Height Gauge

- Loosen the adjustment screw (41), Fig. 23, until the capstan stator (135) just touches the rotor (133).
- Place the Height Gauge "U" onto the capstan rotor (133) and the Dial Height Gauge as shown in Fig. 24 onto the smooth area on the edge of the mechanics. Set the pointer of the Dial Height Gauge to zero.
- With the adjustment screw (41) adjust the distance between the capstan rotor (133) and the stator (135) to 0.5mm...0.55mm (Fig. 25).

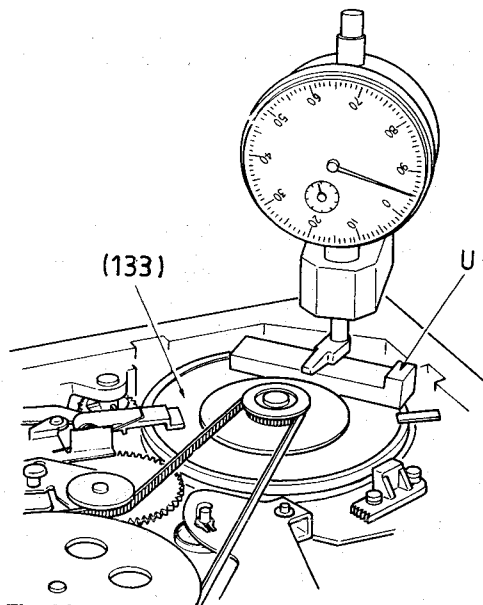


Fig. 24

6.6 Höheneinstellung der Wickelteller

Meßmittel: Einstellplatte, Höhenmeßuhr

- Cassettenschacht ausbauen (Kap. 3).
- Einstellplatte auf die Wickelteller legen.
- Höhenmeßuhr so auf die Einstellplatte legen, daß deren Meßfuß im ausgearbeiteten Teil der Einstellplatte aufsteht (Fig. 26).
- Skala der Höhenmeßuhr auf Null stellen
- Höhe der Wickelteller (14), (71) messen (Fig. 27).
- Wenn der gemessene Wert mehr als $\pm 0,2\text{mm}$ vom eingestellten Nullwert der Skala abweicht, Wickeltellerhöhe durch Austauschen der Unterlegscheiben einstellen. Folgende Unterlegscheiben sind lieferbar:

6.6 Height Adjustment of the Spool Carriers

Service Aid: Post Adjustment Plate, Dial Height Gauge

- Remove the cassette compartment (para 3)
- Place the Post Adjustment Plate onto the spool carrier.
- Place the Dial Height Gauge onto the Post Adjustment Plate so that the measuring probe of the Dial Height Gauge locates into the cut-out provided on the Post Adjustment Plate (Fig. 26).
- Set the pointer of the Dial Height Gauge to zero.
- Measure the height of the spool carrier (14), (71) (Fig. 27).
- If the measured value differs from the zero Value of the pointer by more than $\pm 0.2\text{mm}$, readjust the spool carrier height by replacing the shim washer. The following shim washers are available:

Unterlegscheibe / Washer / Rondella	Sachnummer / Part Number / No. ordine
0,2 mm	75 986 - 208.21
0,3 mm	75 986 - 208.22
0,5 mm	75 986 - 208.23

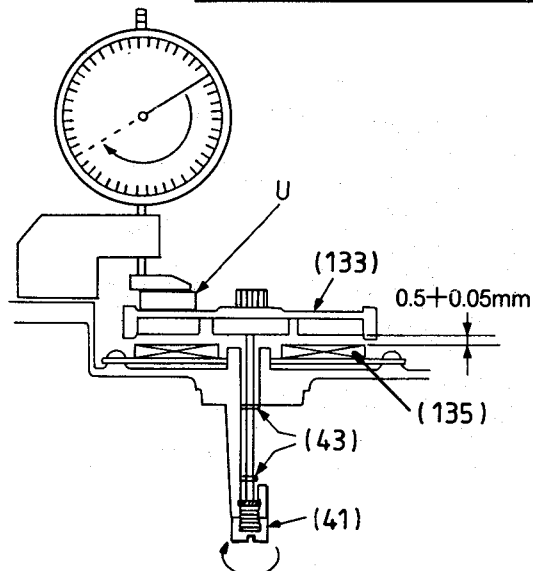


Fig. 25

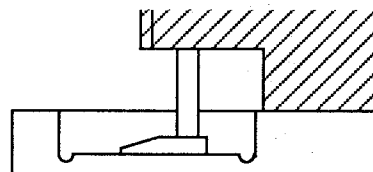


Fig. 26

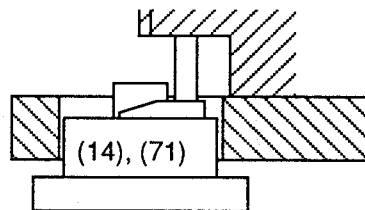


Fig. 27

6.7 Statische Höheneinstellung der Bandbolzen P2, P3 und P5

Meßmittel: Einstellplatte, Höhenmeßuhr, Einstellschraubendreher

Vorbereitung:

- Cassettenschacht ausbauen (Kap. 3)
- Einstellplatte nach Abbildungen Fig. 28 / 31 auf die Wickelteller legen.

6.7.1 Bandführungsbolzen P2, P3

- Höhe der Bandführungsbolzen P2 / P3 so einstellen, daß der untere Führungsbund unter der Oberkante der Einstellplatte liegt (Fig. 29).
- Höhenmeßuhr nach Abbildung Fig. 29 platzieren und Anzeige auf Null stellen. Anschließend Bandführungsbolzen soweit hochdrehen, bis der untere Führungsbund gerade den Meßfühler der Höhenmeßuhr berührt (Fig. 30).
- Schraube "V" nicht lösen! Sie dient zur Neigungseinstellung der Führungsbolzen P2, P3.
- Statische Höheneinstellung kontrollieren (Kap. 6.7.3).

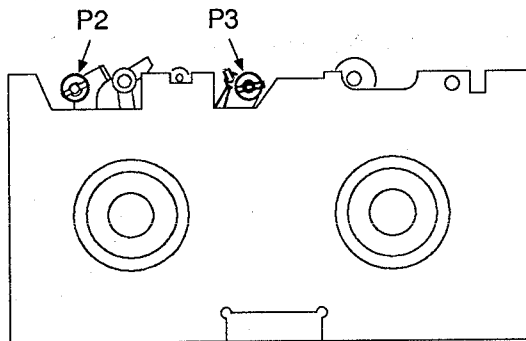


Fig. 28

6.7 Static Height Adjustment of Tape Bolts P2, P3 and P5

Service Aids: Post Adjustment Plate, Dial Height Gauge, Post Adjustment screw driver

Preparations:

- Remove the cassette compartment (para 3)
- Place the Post Adjustment Plate onto the spool carrier as shown in Fig. 28 / 31.

6.7.1 Tape Guide Bolts P2, P3

- Adjust the height of the Tape Guide Bolts P2, P3 so that the lower guide collar lies below the upper edge of the Post Adjustment Plate (Fig. 29).
- Place the Dial Height Gauge as shown in Fig. 29 and set the pointer to zero. Afterwards adjust to raise the height of the Tape Guide Bolts so that the lower guide collar just touches the measuring probe of the Dial Height Gauge (Fig. 30).
- Do not loosen screw "V"! This screw is only for adjusting the tilt of the Guide Bolts P2, P3.
- Check the Static Height Adjustment (para 6.7.3).

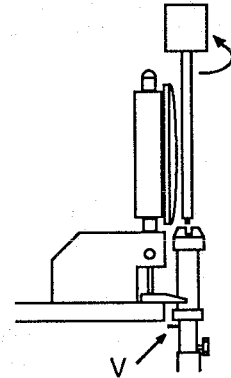


Fig. 29

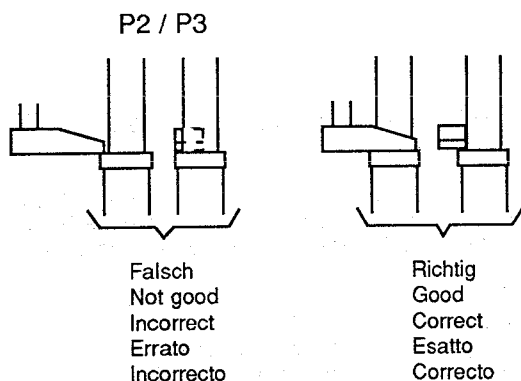


Fig. 30

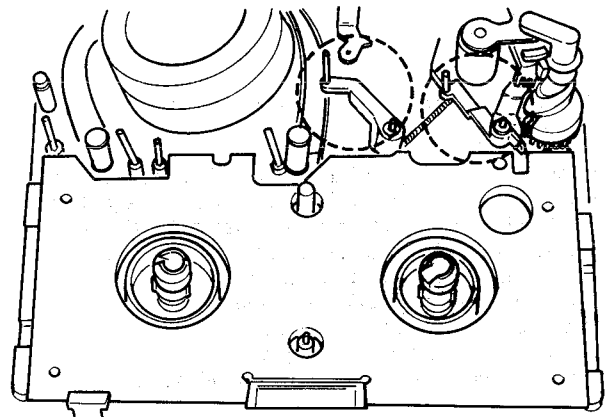


Fig. 31

6.7.2 Bandauszugsbolzen P5

Hinweis: Einstellmutter (52) des Bandauszugsbolzens P5 nur zu Justagezwecken verdrehen!

- Capstanrotor soweit entgegen dem Uhrzeigersinn drehen, bis die in Abbildung Fig. 31 gezeigte Laufwerkstellung erreicht ist.
- Höhenmeßuhr nach Abbildung Fig. 32 auf die Einstellplatte stellen und Skala auf "Null" eichen.
- Höhenmeßuhr nach Abbildung Fig. 33 am unteren Führungsbund des Bandauszugsbolzens P5 auflegen und mit der Einstellmutter (52) die Anzeige der Höhenmeßuhr auf $0,03 \text{ mm} \pm 0,01 \text{ mm}$ einstellen.
- Statische Höheneinstellung kontrollieren (Kap. 6.7.3).

6.7.2 Tape Pull-Out Bolt P5

Note: The Adjustment Nut (52) on the Tape Pull-out Bolt P5 must be turned for adjustment purposes only!

- Rotate the capstan rotor in the anti-clockwise direction until the mechanics reaches the position shown in Fig. 31.
- Place the Dial Height Gauge onto the Post Adjustment Plate as shown in Fig. 32 and adjust the pointer to zero.
- Place the Dial Height Gauge as shown in Fig. 33 onto the lower guide collar of the Tape Pull-out Bolt P5 and adjust the nut (52) until the pointer of the Dial Height Gauge indicates $0.03 \text{ mm} \pm 0.01 \text{ mm}$.
- Check the Static Height Adjustment (para 6.7.3).

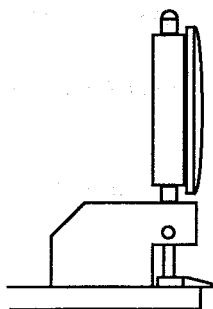


Fig. 32

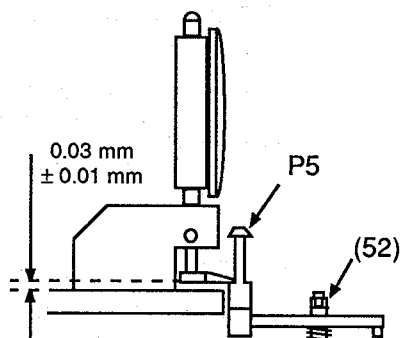


Fig. 33

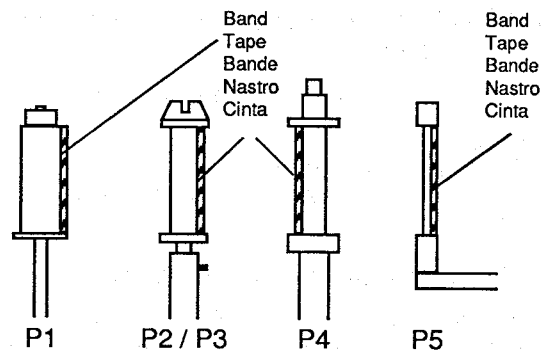


Fig. 34

6.7.3 Kontrolle der statischen Höheneinstellung

- Cassettenschacht einbauen (Kap. 4).
- A / W - Cassette wiedergeben.
- Prüfen, ob das Band an den Bolzen P1, P2, P3, P4 und P5 ohne zu bördeln läuft (Fig. 34...Fig. 36).
- Gegebenenfalls Höhenjustage Kap. 6.7.1 und 6.7.2 wiederholen.
- Dynamische Einstellung der Bandführungsbolzen P2, P3 prüfen (Kap. 6.8.1)

6.7.3 Checking the Static Height Adjustment

- Refit the cassette compartment (para 4).
- Playback a record / playback cassette.
- Check that the tape runs past the Bolts P1, P2, P3, P4 and P5 without crinkling (Fig. 34 ... Fig. 36).
- If necessary, repeat the height adjustment as described in paras 6.7.1 and 6.7.2.
- Check the Dynamic Adjustment of the Tape Guide Bolts P2, P3 (para 6.8.1).

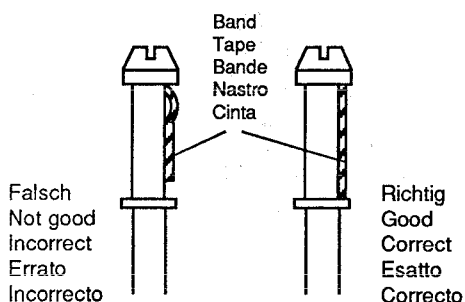


Fig. 35

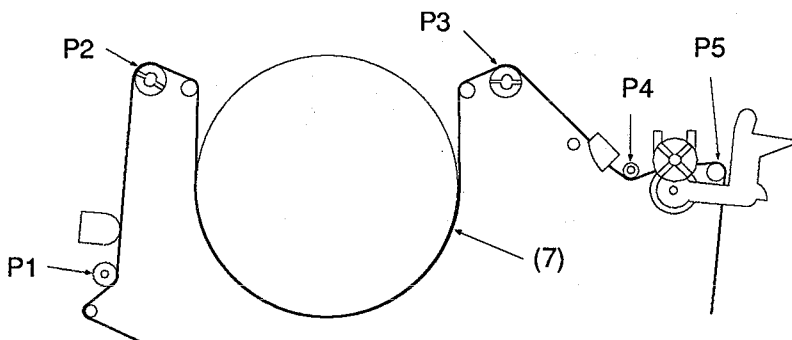


Fig. 36

6.8 Bandlaufeinstellung / Kompatibilitäts-einstellung

Diese Einstellungen sind grundsätzlich nach Tausch des Audio-/Synchronkopfes (A/C), der Andrückrolle oder nach Justage der Bolzen P2, P3, P5 durchzuführen bzw. zu überprüfen. Dabei muß folgende Reihenfolge eingehalten werden:

- 6.8.1 Dyn. Einstellung der Bolzen P2, P3
- 6.8.2 Einstellen der Neigung des A/C -Kopfes
- 6.8.3 Höheneinstellung des A/C-Kopfes
- 6.8.4 Azimut-Einstellung des A/C-Kopfes
- 6.8.5 Einstellen der horizontalen Lage des A/C-Kopfes

6.8 Tape Transport Adjustment / Compatibility Adjustment

These adjustments must be carried out or checked in every case after every replacement of the A/C head, the Pressure Roller or after adjusting the Bolts P2, P3, P5. The following sequence must be adhered to:

- 6.8.1 Dynamic adjustment of the Bolts P2, P3
- 6.8.2 Tilt adjustment of the A/C Head
- 6.8.3 Height adjustment of the A/C Head
- 6.8.4 Azimuth adjustment of the A/C Head
- 6.8.5 Horizontal position adjustment of the A/C Head

6.8.1 Dynamische Einstellung der Bolzen P2, P3

Meßmittel: Testcassette, Oszilloskop

- Oszilloskop nach Abbildung Fig. 37 anschließen:
Tastkopf 1 an TP 1
Tastkopf 2 an TP 2
- Testcassette wiedergeben (Tracking in Mittelstellung)
- Falls sich Hüllkurven wie die Beispiele "A" und "B" in Abbildung Fig. 38 zeigen, Hüllkurve mit dem Einlauf-Bandführungsbolzen P2 nach Abbildung Fig. 38 - "E" einstellen.
- Falls sich Hüllkurven wie die Beispiele "C" oder "D" in Abbildung Fig. 38 zeigen, Hüllkurve mit Auslauf-Bandführungsbolzen P3 nach Abbildung Fig. 38 - "E" einstellen.
- Trackingeinstellung nach "+" und "-" variieren. Dabei sollen die Hüllkurvenränder parallel zusammenlaufen (Fig. 39).
- Tracking auf maximale Hüllkurvenamplitude einstellen. Diese muß folgende Grenzwerte einhalten (Fig. 40):
 $V1 / V \geq 0,7$; $V2 / V \geq 0,8$
- Gegebenenfalls Einstellung wiederholen.

6.8.1 Dynamic adjustment of the Bolts P2, P3

Service Aids: Test Cassette, Oscilloscope

- Connect the oscilloscope as shown in Fig. 37:
Test Probe 1 to TP 1
Test Probe 2 to TP 2
- Playback the test cassette (tracking to mid setting).
- If the FM envelopes are displayed as shown in examples "A" and "B" in Fig. 38 adjust with the Run-in Tape Guide Bolt P2 so that the FM envelopes are as shown in Fig. 38 - "E".
- If the FM envelopes are displayed as shown in example "C" or "D" in Fig. 38, adjust with the Run-out Tape Guide Bolt P3 so that the FM envelopes are as shown in Fig. 38 - "E".
- Vary the Tracking in the "+" and "-" directions. When doing so the FM envelope should show parallel converging lines (Fig. 39).
- Adjust the tracking to obtain maximum FM envelope amplitude. This must produce the following basic values (Fig. 40):
 $V1 / V \geq 0,7$; $V2 / V \geq 0,8$
- If not obtained repeat these adjustments.

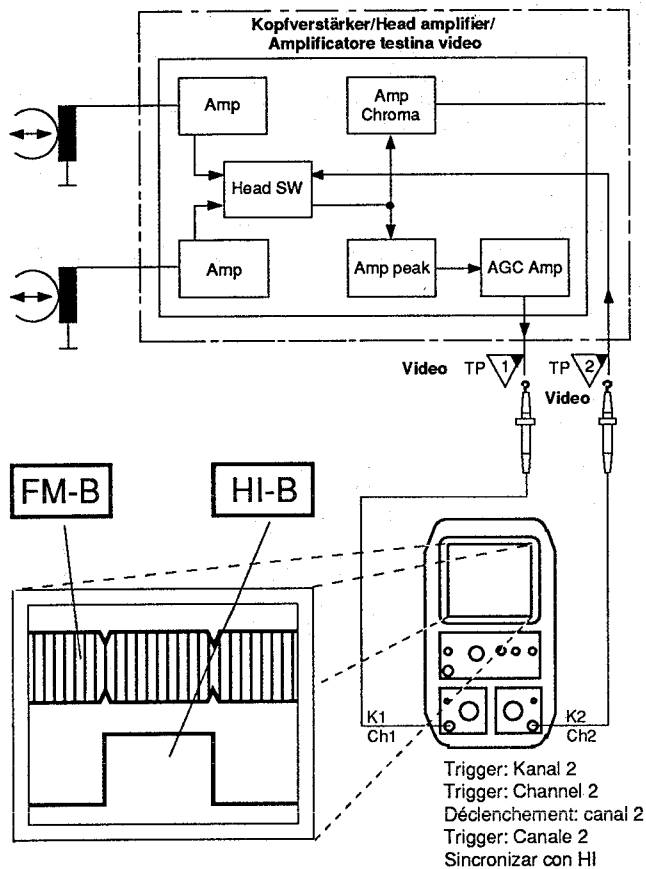


Fig. 37

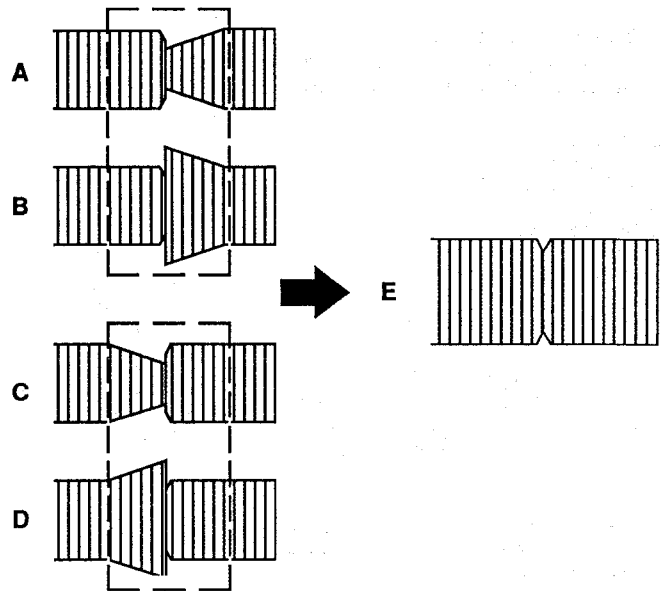


Fig. 38

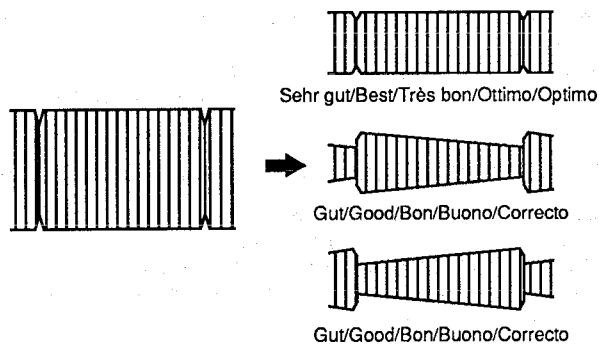


Fig. 39

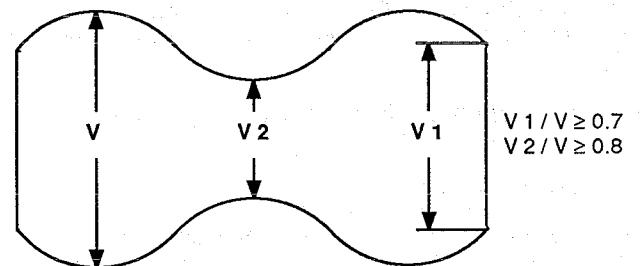


Fig. 40

6.8.2 Einstellen der Neigung des A/C-Kopfes

- Unbespielte Cassette vom Bandanfang an wiedergeben.
- Neigung des A/C-Kopfes (34) mit Schraube "A1" (Fig. 41 / 42) so einstellen, daß das Band bei manueller Bandzugerhöhung leicht sichtbar, jedoch ohne zu bürdeln am unteren Führungsbund des Bandlaufbolzens P4 aufliegt.
- Höheneinstellung des A/C-Kopfes prüfen (Kap. 6.8.3)

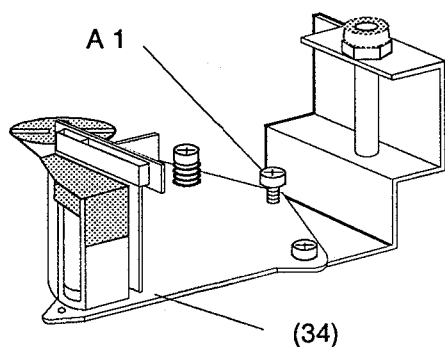


Fig. 41

6.8.2 Tilt Adjustment of the A/C Head

- Playback an un-used cassette from the beginning.
- Adjust the tilt of the A/C head (34) with the screw "A1" (Fig. 41 / 42) so that the tape, whilst manually increasing the tape tension, just touches the lower collar of the Tape Guide Bolt P4 without crinkling.
- Check the height adjustment of the A/C Head (para 6.8.3)

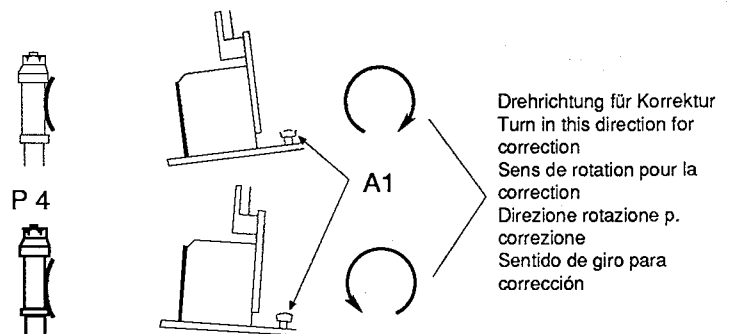


Fig. 42

6.8.3 Höheneinstellung des A/C-Kopfes

Meßmittel: Testcassette, Oszilloskop

- Testcassette wiedergeben
- mit Mutter (35) den unteren Rand des Synchronkopfes mit dem unteren Rand des Bandes zur Deckung bringen (Fig. 43).

Kontrolle:

- Tastkopf des Oszilloskops an EURO-AV-Buchse, Kontakt 1
- 6,3 kHz- Signal der Testcassette wiedergeben
- mit Mutter (35) maximale Ausgangsspannung einstellen (Fig. 44).

Synchronkopf
Control head
Tête de synchronisation
Testina di sincronismo
Cabeza de sincro

Untere Bandkante
Lower edge of tape
Bord inférieur de la bande
Spigolo infer. del nastro
Borde inferior de la cinta

Band
Tape
Bande
Nastro
Cinta

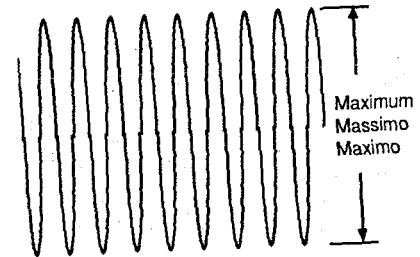
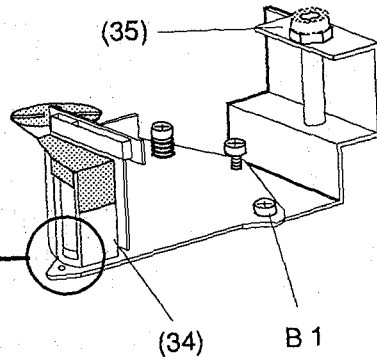


Fig. 44

Fig. 43

6.8.4 Azimuteinstellung des A/C-Kopfes

Meßmittel: Testcassette, Oszilloskop

- Tastkopf des Oszilloskops an EURO-AV-Buchse, Kontakt 1.
- 6,3 kHz-Audiosignal der Testcassette wiedergeben.
- mit Schraube "B1" maximalen Ausgangspegel einstellen (Fig. 43, Fig. 44).

6.8.5 Einstellen der horizontalen Lage des A/C-Kopfes

Meßmittel: Testcassette, Oszilloskop

- Oszilloskop nach Abbildung Fig. 37 anschließen
- Testcassette wiedergeben (Tracking in Mittelstellung)
- Hüllkurve (FM vom Band) mit Mutter (36) auf maximale Amplitude einstellen (Fig. 45, Fig. 46).

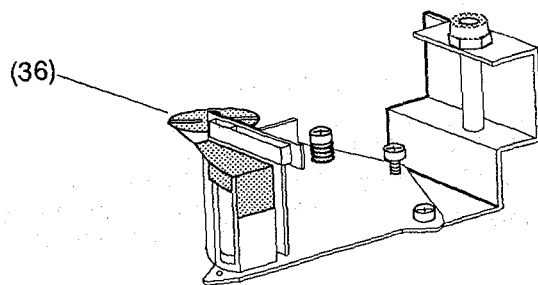


Fig. 45

6.8.3 Height adjustment of the A/C Head

Service Aids: Test Cassette, Oscilloscope

- Playback the Test Cassette.
- Turn the nut (35) so that the bottom edge of the Sync Head coincides with the lower edge of the tape (Fig. 43).

CHECK:

- Connect a test probe from the Oscilloscope to contact 1 of the EURO-AV Socket.
- Playback the 6.3 kHz signal from the Test Cassette.
- Adjust the nut (35) to obtain maximum output voltage (Fig. 44).

6.8.4 Azimuth adjustment of the A/C Head

Service Aids: Test Cassette, Oscilloscope

- Connect a test probe from the Oscilloscope to contact 1 of the EURO-AV Socket.
- Playback the 6.3 kHz signal from the Test Cassette.
- Adjust the screw "B1" to obtain maximum output voltage (Fig. 43, Fig. 44).

6.8.5 Horizontal position adjustment of the A/C Head

Service Aids: Test Cassette, Oscilloscope

- Connect the Oscilloscope as shown in Fig. 37.
- Playback the Test Cassette (tracking to mid setting).
- Set the envelopes (FM Tape) to maximum amplitude (Fig. 45, Fig. 46) with the nut (36).

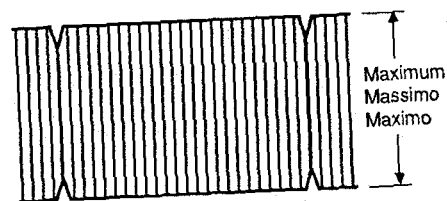


Fig. 46

7. Hinweise zu Reparaturen in der Antriebsmechanik

Dieses Laufwerk ist durch den Funktionswahlschalter (55) sehr eng mit der Ablaufsteuerung verknüpft. Die Beziehung zwischen Funktionswahlschalter und den Kurvenrädern bestimmt alle weiteren mechanischen Funktionsabläufe. Falls Hebel, Zahnräder, Rollen usw. nicht exakt eingebaut sind, können deshalb Laufwerksblockaden, bzw. Schäden im Laufwerk oder in der Elektronik auftreten.

Die Abbildungen Fig. 47 / 48 zeigen das Laufwerk in der Bezugsposition "STOP" und die dabei auftretende Anordnung der Markierungslöcher. Die Bezugsposition "STOP" ist identisch mit der Laufwerkstellung "Umspülbetrieb". Diese entspricht der 2. Raststellung des Kupplungsrades (116), wenn diese Laufwerkstellung durch Drehen des Capstanrotors von Hand angefahren wird.

Der Austausch von Bauteilen in der Antriebsmechanik darf nur in dieser Laufwerkstellung erfolgen.

7. Notes on Repairing the Drive Mechanism

This Drive Mechanism is very closely coupled with the Sequence Control by means of the Mode Select Switch (56). The relationship between the Mode Select Switch and the Cam Gears determines all the sequences of the other mechanical operations. If, therefore, the levers, gears and rollers etc., are not correctly fitted, the drive mechanism may fail to work and damage may occur within the mechanics or electronic circuits.

The illustrations Fig. 47 / 48 show the drive mechanism in the reference position "STOP" and the resulting alignment of the marking holes. The reference position "STOP" is identical to the mechanical position during "WINDING MODE". This corresponds to the second locking position of the clutch disc (116), when this mechanical position is reached by rotating the capstan rotor by hand.

Replacement of components in the drive mechanism must only be carried out with the mechanics set to this position.

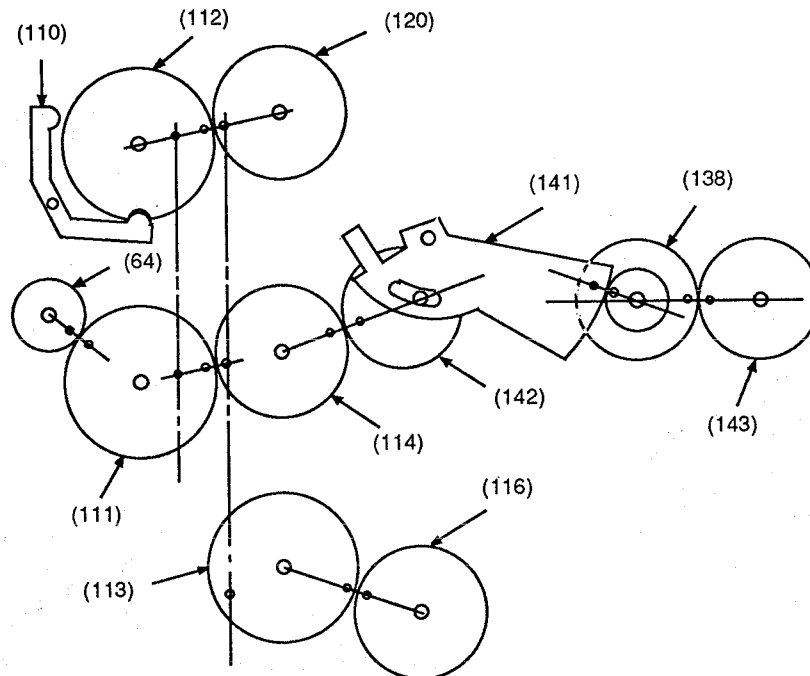


Fig. 47

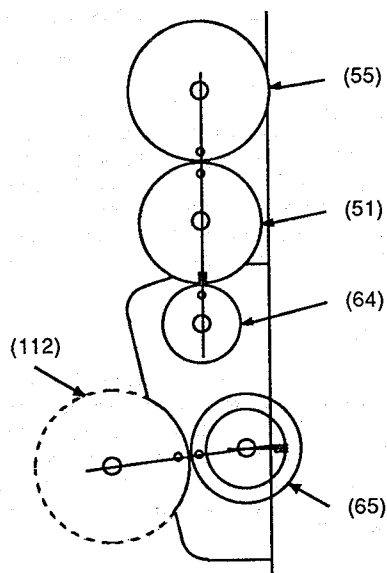


Fig. 48

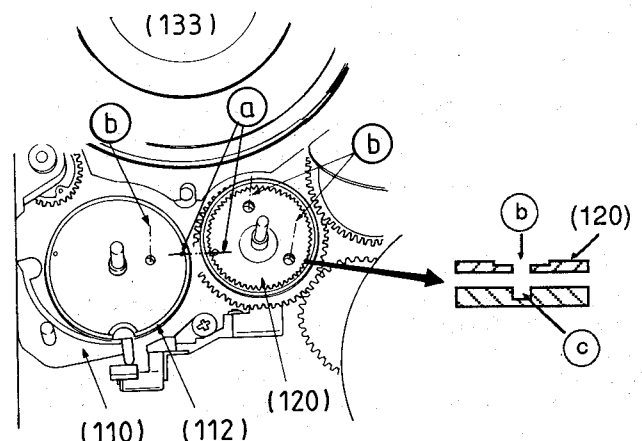


Fig. 49

7.1 Kurvenrad (112), Ringrad (120), Sperrhebel (110)

- Ringrad (120) so einbauen, daß die Markierungslöcher (b) im Ringrad mit den Markierungslöchern (c) im Laufwerkchassis übereinstimmen (Fig. 49).
- Kurvenrad (112) so einbauen, daß das Markierungsloch (b) mit dem Markierungsloch (c) im Laufwerk übereinstimmt und das Markierungsloch (a) dem Markierungsloch (a) des Ringrades (120) gegenübersteht.
- Sperrhebel (110) einsetzen.

7.2 Kurvenrad (111), Unteretzungszahnrad (64)

- Unteretzungszahnrad (64) von der Oberseite des Laufwerks einsetzen (Fig. 50).
- Kurvenrad (111) so auf das Kurvenrad (112) stecken, daß sich die Markierungslöcher (a) des Kurvenrades (111) und des Unteretzungszahnrads (64) gegenüberstehen. Gleichzeitig müssen die Markierungslöcher (b) der Kurvenräder (111) und (112) genau übereinander liegen (Fig. 49 / 50).

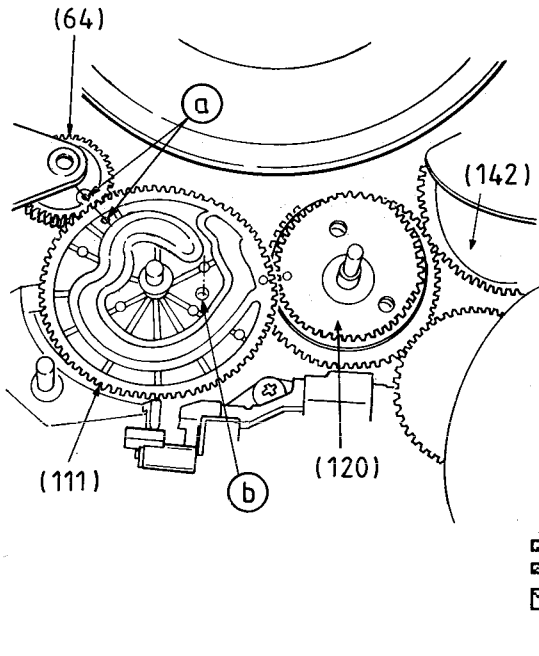


Fig. 50

7.3 Ladekurvenrad (142), Zwischenrad (114)

- Ladekurvenrad (142) so einbauen, daß der Hilfsladehebel (39) in die Aussparung "e" eingreift (Fig. 51).
- Zwischenrad (114) auf das Ringrad (120) stecken (Fig. 52). Die Markierungslöcher des Zwischenrades (114) und des Kurvenrades (111), sowie die Markierungslöcher (b) des Zwischenrades (114) und des Ladekurvenrades (142) müssen gegenüberstehen. Gleichzeitig müssen das Markierungsloch (b) des Zwischenrades (114), das Markierungsloch (b) des Ringrades (120) und das Markierungsloch (c) im Laufwerkchassis übereinanderliegen.

7.4 Steuerrad (113)

- Steuerrad (113) so auf das Zwischenrad (114) stecken, daß das Markierungsloch (a) des Steuerrades (113) dem Markierungsloch (a) des Kupplungsrades (116) gegenübersteht und die Markierungslöcher (b) des Steuerrades (113), (b) des Zwischenrades (114), (b) des Ringrades (120) und (c) des Laufwerks übereinanderliegen (Fig. 53).
- Sicherungsring (100) montieren.

7.5 Hauptsteuerschieber (103), Steuerhebel (109)

- Hauptsteuerschieber (103) einsetzen und mit den Sicherungsringen (100) befestigen (Fig. 54).
- Steuerhebel (109) so einbauen, daß dessen Steuerbolzen "f" in die Steuerkurve des Kurvenrades (111) und der Abzug in die Aussparung des Hauptsteuerschiebers (103) eingreift (Fig. 55).
- Greifring "X" montieren.

7.1 Sub Cam Gear (112), Ring Gear (120), Locking Lever (110)

- Fit the ring gear (120) so that the marked holes (b) in the Ring Gear lines up with the marked holes (c) in the mechanical chassis (Fig. 49).
- Fit the Sub Cam Gear (112) so that the marked hole (b) lines up with the marked hole (c) in the mechanics and that the marked hole (a) faces towards the marked hole (a) on the Ring Gear (120).
- Fit the Locking Lever (110).

7.2 Cam Gear (111), Reduction Toothed Gear (64)

- Fit the Reduction Toothed Gear (64) from the top of the mechanics (Fig. 50)
- Fit the Cam Gear (111) onto the Sub Cam Gear (112) so that the marked holes (a) on the Cam Gear (110) and the Reduction Gear (64) are aligned towards each other. In this position the marked holes (b) on the Cam Gears (111) and (112) must lie accurately over each other (Fig. 49 / 50).

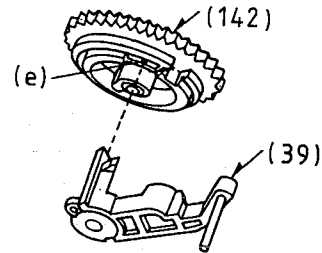


Fig. 51

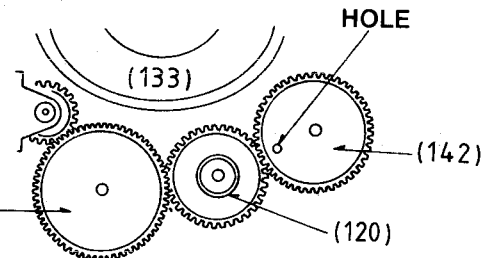


Fig. 51-1

7.3 Loading Cam Gear (142), Intermediate Gear (114)

- Fit the Loading Cam Gear (142) so that the Sub Loading Lever (39) engages with the cut out "e" (Fig. 51).
- Fit the Intermediate gear (114) onto the Ring Gear (120), (Fig. 52). The marked holes (a) on the Intermediate Gear (114) and the Cam Gear (111) and the marked the holes (b) on the Intermediate Gear (114) and the Loading Cam Gear (142) must be aligned towards each other. Simultaneously the marked hole (b) on the Intermediate Gear (114), the marked hole (b) on the Ring Gear (120) and the marked hole (c) on the mechanical chassis must lie accurately over each other.

7.4 Drive Gear (113)

- Fit the Drive Gear (113) onto the Intermediate Gear (114) so that the marked hole (a) on the Drive Gear (113) is aligned towards the marked hole (a) on the Clutch Disk (116), and the marked holes (b) on the Drive Gear (113), marked hole (b) on the Intermediate Gear (114), marked hole (b) on the Ring Gear (120) and the marked hole (c) on the mechanics lie accurately over each other (Fig. 53).
- Fit the Securing Ring (100).

7.5 Main Control Lever (103), Control Lever (109)

- Fit the Main Control Lever (103) and secure with the securing ring (100) (Fig. 54)
- Fit the Control Lever (109) so that the Drive Bolt "f" engages with the cam curve of the Cam Gear (111) and the bent part with the gap in the main control lever (103), Fig. 55.
- Fit the Grip Ring "X".

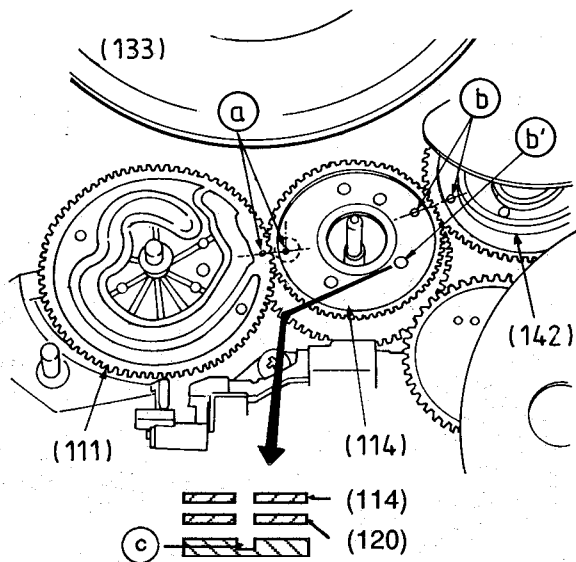


Fig. 52

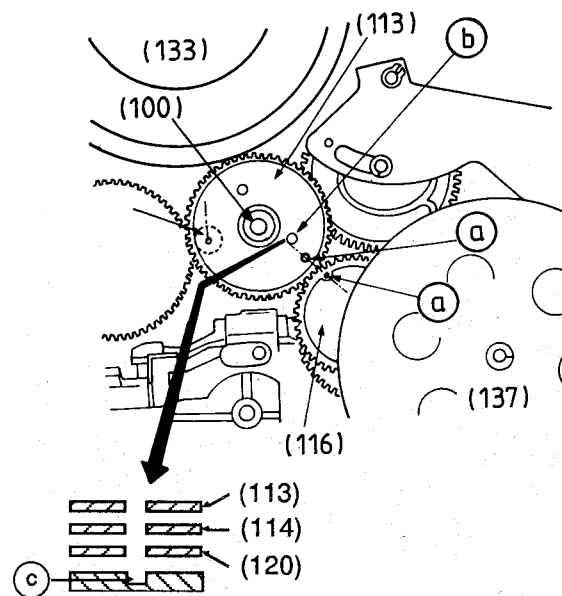


Fig. 53

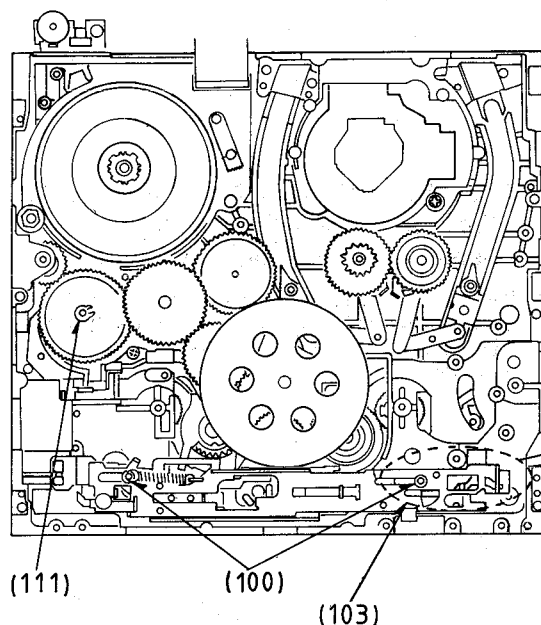


Fig. 54

7.6 Laderäder (138,143), Zahnsegment (141), Bremshebel (105), Spannrollenhebel (108)

- Bandführungsbolzen P2, P3 in Stellung "STOP" bringen.
- Laderäder (138, 143) so einsetzen, daß sich deren Markierungs-löcher (b) gegenüberstehen (Fig. 56).
- Zahnsegment (141) nach Fig. 56 einbauen. Das Markierungsloch (b) des Zahnsegments (141) muß sich gegenüber der Markierungs-nase (d) des Laderades (138) befinden.
- Bremshebel (105) und Greifring "X" montieren.
- Spannrollenhebel (108) einbauen.
- Spannung des Riemens des Capstanmotors einstellen (Kap. 6.1)
- Schrauben "SC" anziehen.

7.6 Loading Gears (138,143), Toothed Segment (141), Brake Lever (105), Tension Roller Lever (108)

- Set the Tape Guide Bolts P2 and P3 into the "STOP" position.
- Fit the Loading Gears (138, 143) so that their marked holes (b) are aligned towards each other (Fig. 56).
- Fit the Toothed Segment (141) as shown in Fig. 56. The marked hole (b) on the Toothed Segment (141) must be aligned towards the marked lug (d) on the Loading Gear (138).
- Fit the Brake Lever (105) and the Grip Ring "X".
- Fit the Tension Roller Lever (108).
- Adjust the tension of the belt of the capstan motor (para 6.1).
- Tighten the screws "SC".

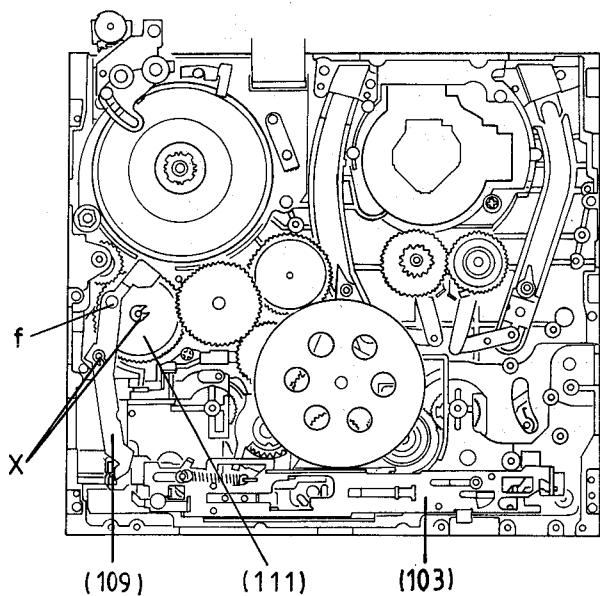


Fig. 55

7.7 Umspulhebel (153), Umspulkupplung (151), Zugverminderungshebel (154), Zugverminderungs-Kupplung (152)

- Umspulhebel (153) und Umspulkupplung (151) montieren (Fig. 57).
- Umspulriemen (159) auf die Umspulkupplung (151) legen.
- Zugverminderungshebel (154) und Zugverminderungs-Kupplung (152) einbauen.

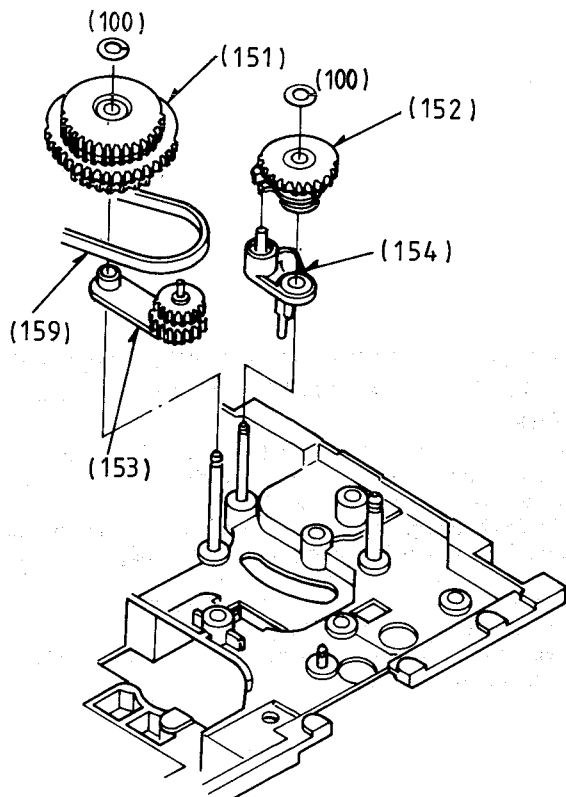


Fig. 57

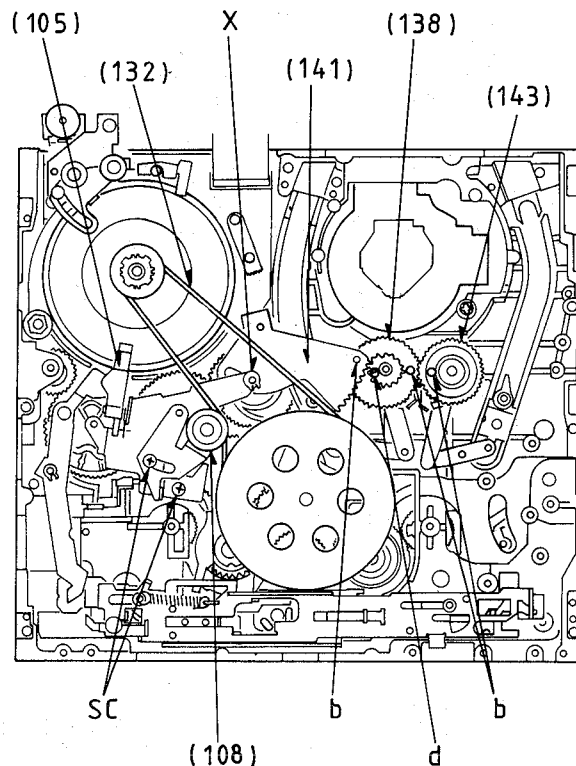


Fig. 56

7.7 Rev Arm Unit (153), Rev Clutch Unit (151), Tension Release Lever (154), Tension Release Clutch Unit (152)

- Fit the Rev Arm Unit (153) and the Rev Clutch Unit (151), Fig. 57.
- Put the Rev Motor Timing Belt (159) onto the Rev Clutch Unit (151).
- Fit the Tension Release Lever (154) and Tension Release Clutch Unit (152).

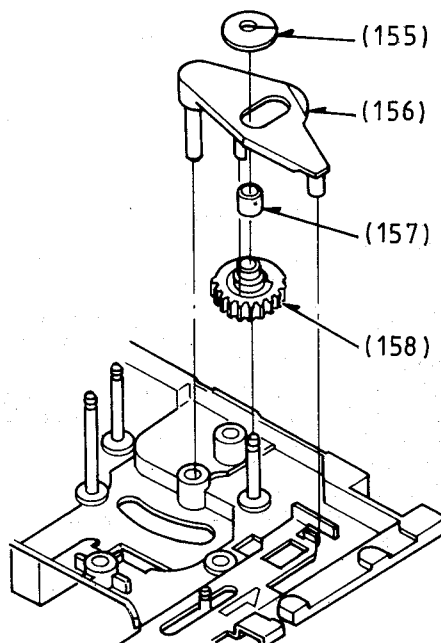


Fig. 58

7.8 Hilfshebelrad (158), Hilfshebel (156), Umspulkontrollhebel (160)

- Hilfshebelrad (158), Hilfshebel (156), Bremsring (157) und Scheibe (155) gemäß Fig. 58 montieren.
- Umspulkontrollhebel (160) gemäß Fig. 59 einbauen.

7.9 Riemenstapenhebel (93)

- Riemenstapenhebel (93) gemäß Fig. 60 montieren.
- Riemenstapen, wie in Kapitel 6.2 beschrieben, einstellen.

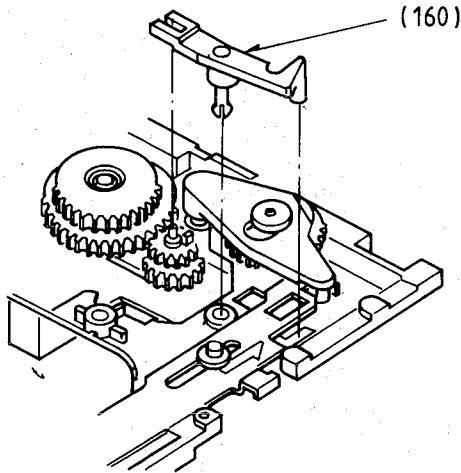


Fig. 59

7.8 Sub Lever Cam (158), Sub Cam Follower (156), Review Control Lever (160)

- Fit the Sub Lever Cam (158), the Sub Cam Follower (156), the Rubber Stopper (157) and the Washer (155) as shown in Fig. 58.
- Fit the Review Control Lever (160) as shown in Fig. 59.

7.9 Tension Pulley Base Unit (93)

- Fit the Tension Pulley Base Unit (93) as shown in Fig. 60.
- Adjust the tension of the Timing Belt as described under point 6.2.

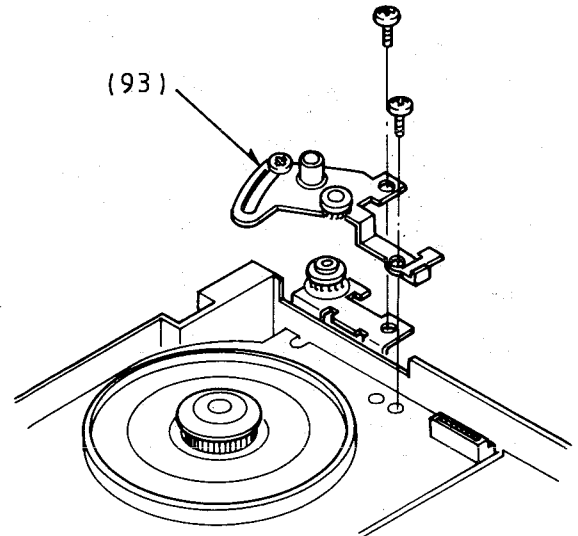


Fig. 60

7.10 Zwischenrad (65)

Hinweis: Bevor Sie das Zwischenrad einbauen, müssen sich alle Zahnräder in den bisher beschriebenen Positionen befinden.

- Zwischenrad (65) gemäß Abbildung Fig. 61 einsetzen. Die Markierungslöcher (a) des Zwischenrades (65) und des Kurvenrades (112) müssen sich gegenüberstehen.

7.10 Intermediate Gear (65)

Note: Before fitting the Intermediate Gear make sure that all other gears are in the positions described earlier.

- Fit the Intermediate Gear (65) as shown in Fig. 61. The marked holes (a) on the Intermediate Gear (65) and the Cam gear (112) must be aligned towards each other.

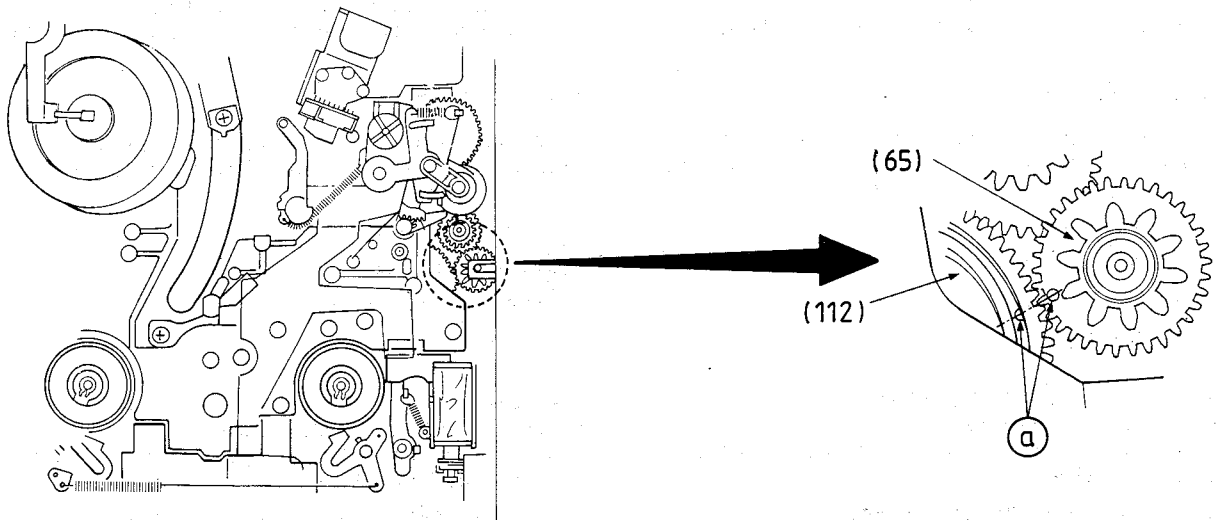


Fig. 61

7.11 Funktionswahlschalter (55), P5-Zahnsegment (50)

- Funktionswahlschalter (55) einsetzen, Schraube "g" eindrehen und Kontakte "h" anlöten (Fig. 62).
- P5-Zahnsegment (50) nach Abbildung Fig. 62 einsetzen. Das Markierungsloch (a) des P5-Zahnsegments (50) muß dem 1. Zahn des Zahnsegments des P5-Hebels (53) gegenüberstehen.

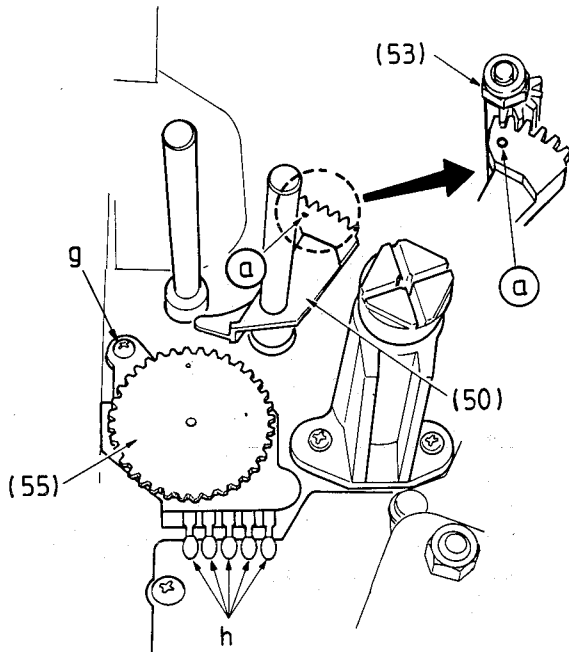


Fig. 62

7.12 Rollenhebelantrieb (51), Andruckrolleneinheit (45)

- Rollenhebelantrieb (51) so einsetzen, daß die Ecke "i" des P5-Hebels (53) in der Aussparung des Rollenhebelantriebs liegt (Fig. 63). Die Markierungsnase (d) am Zahnrad des Rollenhebelantriebs und das Markierungsloch (a) des Untersetzungs Zahnrads (64) müssen gegenüberstehen. Außerdem müssen die Markierungs- löcher (b) des Funktionswahlschalters (55) und des Zahnrades des Rollenhebelantriebs (51) gegenüberstehen.
- Andruckrolleneinheit (45) und Sicherungskappe (44) einbauen.

8. Allgemeine Hinweise

- Die in Klammern angegebenen Zahlen sind mit den Positionsnum- mern in den Explosionszeichnungen und Ersatzteillisten identisch.
- Justagemarkierungen:

- (a) kleine Markierungslöcher
- (b) große Markierungslöcher
- (c) Bezugsmarkierung im Laufwerk
- (d) Markierungsnasen

Testcassette Sach-Nr. 9.27540 - 1011

- Farbtestbild mit Dropout-Einblendung
- 6,3 kHz- Senkrecht-Vollspuraufzeichnung und Bezugspegel 333 Hz in dreiminütigem Wechsel.

Testcassette (HiFi) Sach-Nr. 9.27540 - 1016

- Farbtestbild mit Dropout-Einblendung
- Längsspur - Ton: 6,3 kHz / 333 Hz
- FM-Ton: 1 kHz Vollpegel (± 50 kHz Hub)

Ersatzteilliste

Die Ersatzteilliste für das Laufwerk ist im Service Manual des betref- fenden Videorecorders enthalten!

7.11 Mode Select Switch (55), P5 Toothed Segment (50)

- Fit the mode select switch (55), tighten the screw "g" and solder the contacts "h" (Fig. 62).
- Fit the P5 Toothed Segment (50) as shown in Fig. 62. The marked hole (a) on the P5 Toothed Segment (50) must be aligned towards the first tooth of the Tooth Segment on the P5 Lever (53).

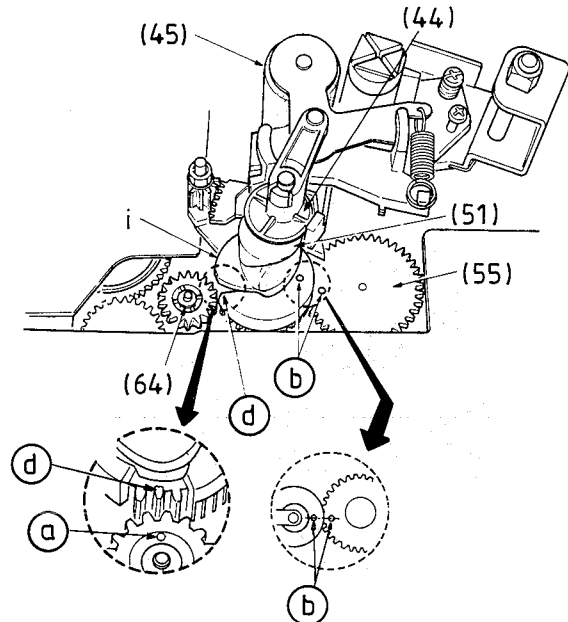


Fig. 63

7.12 Roller Lever Drive (51), Pressure Roller Assembly (45)

- Fit the Roller Lever Drive (51), so that the corner "i" of the P5 Lever (53) lies in the cut out on the Roller Lever Drive (Fig.63). The marked nose (d) on the toothed gear of the Roller Lever Drive and the marked hole (a) on the Reduction Toothed Gear (64) must be aligned towards each other. In addition, the marked holes (b) on the Mode Select Switch (55) and on the tooth gear of the Roller Lever Drive (51) must be aligned towards each other.
- Fit the Pressure Roller Assembly (45) and the Securing Cap (44).

8. General Notes

- The numbers quoted in brackets are the same as the position numbers given in the Exploded Diagrams and Spare Parts Lists.
- Alignment marks:

- (a) Small marked holes
- (b) Large marked holes
- (c) Reference mark in the mechanics
- (d) Marked lugs

Test cassette Part no. 9.27540 - 1011

- Colour test pattern with dropout recording
- 6.3 kHz vertical full-track recording alternating with 333 Hz reference level every 3 minutes.

Test cassette (HiFi) Part no. 9.27540 - 1016

- Colour test pattern with dropout recording
- Longitudinal track sound: 6.3 kHz / 333 Hz
- FM sound: 1 kHz full level (± 50 kHz deviation)

Spare parts list

The Service Manual of the video recorder referred to contains the spare parts list of the drive mechanism!

Explosionszeichnungen

Exploded views

